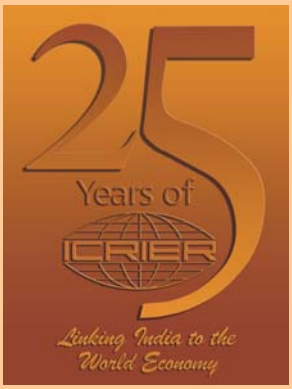

Working Paper No. 190

Indo-US FTA: Prospects for the Telecommunication Sector

Arpita Mukherjee
Prerna Ahuja

December 2006

INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS

Contents

Tables

Abbreviations

ADC	Access Deficit Charge
ADRs	American Depository Receipts
AGR	Adjusted Gross Revenue
ASEAN	Association of Southeast Asian Nations
ATM	Asynchronous Transfer Mode
BPO	Business Process Outsourcing
BSNL	Bharat Sanchar Nigam Limited
CCI	Communication Commission of India
CDMA	Code Division Multiple Access
CECA	Comprehensive Economic Cooperation Agreement
CEO	Chief Executive Officer
CFIUS	Committee on Foreign Investment in the US
DBS	Direct Broadcasting Satellite
DLD	Domestic Long Distance
DoT	Department of Telecommunication
DTH	Direct to Home
EC	European Commission
ECB	External Commercial Borrowing
EDI	Electronic Data Interchange
E-mail	Electronic mail
ENT	Economic Needs Test
EU	European Union
FCC	Federal Communications Commission
FCCB	Foreign Currency Convertible Bonds
FDI	Foreign Direct Investment
FII	Foreign Institutional Investment
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariff and Trade
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GDR	Global Depository Receipts
GMPC	Global Mobile Personal Communication
GSM	Global System for Mobile Communications
HTL	Hindustan Teleprinters
ILD	International Long Distance
ILDO	International Long Distance Operators
IP	Internet Protocol
IPR	Intellectual Property Right
ISD	International Subscriber Dialling
ISP	Internet Service Provider
IT	Information Technology
ITES	Information Technology Enabled Services

ITU	International Telecommunication Union
IUC	Interconnection Usage Charge
JV	Joint Venture
LOI	Letter of Content
MFJ	Modification of Final Judgement
MFN	Most Favoured Nation
MNC	Multinational Corporation
MTNL	Mahanagar Telephone Nigam Limited
MRA	Mutual Recognition Agreement
NAFTA	North American Free Trade Agreement
NAMA	Non-Agricultural Market Access
NASSCOM	National Association of Software and Services Companies
NCR	National Capital Region
NLD	National Long Distance
NLDO	National Long Distance Operators
NRI	Non-Resident Indians
NTP	National Telecommunication Policy
OECD	Organization for Economic Cooperation and Development
PCB	Printed Circuit Boards
PSU	Public Sector Undertaking
R&D	Research and Development
SAS	System of Accounting Separation
SIA	Secretariat for Industrial Assistance
STD	Subscriber Trunk Dialling
TDSAT	Telecom Dispute Settlement Appellate Tribunal
TEC	Telecom Engineering Centre
TRAI	Telecom Regulatory Authority of India
TSP	Telecom Service Providers
TTO	Telecommunication Tariff Order
UASL	Unified Access Services License
UK	United Kingdom
UNCPC	United Nations Central Product Classification
US	United States of America
USC	United States Code
USO	Universal Service Obligation
USTR	United States Trade Representative
VPN	Virtual Private Network
VSAT	Very Small Aperture Terminal
VSNL	Videsh Sanchar Nigam Limited
WLL	Wireless Local Loop
WTO	World Trade Organization

Abstract

Since telecommunication is one of the main drivers of economic growth and globalization, WTO (World Trade Organization) negotiations and New Age FTAs (Free Trade Agreements) have focused on liberalizing trade in this sector. The present paper analyses the possibilities of liberalizing trade in telecommunication services if India and its largest trading partner—the US—enter into a bilateral agreement.

The study found that India and the US have trade complementarities in telecommunication services and that it should be a priority sector in the FTA negotiations. The study identified certain areas such as R&D related to telecommunication and broadband infrastructure where collaboration between companies of both countries would be mutually beneficial. The study found that telecommunication services have been significantly liberalized in the US FTAs—much beyond the scope of the GATS and the Reference Paper on Basic Telecommunications. While the current policy regime in India is consistent with some of the requests made by the US in its bilateral negotiations, for meeting others, the policy regime needs to be examined and, if required, reformed. The present paper suggests certain reforms which would enhance the productivity, efficiency and global competitiveness of the sector and enable the country to benefit from the bilateral liberalization.

JEL Classification: F13, F14, L96
Keywords: Indo-US FTA, GATS, bilateral agreements, telecommunication, services

Foreword

Trade in services is an important component of 'New Age FTAs'. With the recent suspension of the Doha negotiations, WTO member countries including India and the US are focusing on bilateral/regional agreements. In this context, ICRIER has undertaken several studies on India's bilateral engagement with important trading partners. This paper is part of the study undertaken by ICRIER on 'Indo-US Trade in Services: Prospects for the Information Communication Technology Sector under a Possible Free Trade Agreement' for NASSCOM. This survey-based study analyses the current trade between India and the US in the telecommunication sector, identifies barriers to trade, suggests policy reforms and discusses India's possible negotiating strategies if the two countries enter into an FTA.

I am confident that this paper will provide significant inputs to policy-makers, negotiators, industry associations and academicians working towards realizing the potential of this sector.

Rajiv Kumar
Director and Chief Executive

December 20, 2006

Indo-US FTA: Prospects for the Telecommunication Sector*

Introduction

The role of telecommunication in economic development, although long recognized, has gained much focused attention during the 1980s and 1990s. Technological developments and growth in telecommunications and computation have been the drivers for economic liberalization and globalization in the recent decades. Introduction of competition in the provision of telecommunication services, once considered a natural monopoly resulting in dramatic reduction in the pricing of these services, is one essential factor in the expansion of the knowledge-based services sector in which India is in the forefront today.

Prior to the liberalization of the 1990s, the telecommunication sector in India was under a public monopoly, which was then considered essential due to the public good nature of the services. In the 1990s, the Indian government gave up its monopoly and gradually introduced competition to enhance investment and improve productivity and growth rate. The entry of private and foreign players led to significant expansion in the telecommunication network, introduction of new technologies and striking improvement in productivity. As a consequence, India, today, has one of the largest telecommunication networks in the world. Given the rapid growth of the sector and its huge investment potential, the country is an attractive destination for foreign direct investment (FDI). On its part, India needs to enhance the growth of the telecommunication sector to sustain its global competitiveness in knowledge-based services.

The Uruguay Round, for the first time, brought services into the multilateral trading system. The GATS (General Agreement on Trade in Services), which came into force in January 1995, established rules and disciplines governing trade in services. The Agreement aims at progressive liberalization of trade in services through successive rounds of negotiations. However, the Uruguay Round failed to achieve any but the modest levels of liberalization, except for certain sectors such as telecommunication. The slow progress of multilateral liberalization prompted several countries–both developed and developing—to enter into bilateral/regional agreements in order to increase the pace of liberalization. Other factors such as similar regulatory regimes, trade complementarities, economies of scale in regional services integration and network externalities also encourage countries to opt for the bilateral/regional routes.[1] A unique

* We would like to thank NASSCOM for financially supporting the study. We are grateful to Dr. Rajiv Kumar (Director and Chief Executive, ICRIER), Dr. Arvind Virmani (Principle Advisor, Planning Commission and Member, TRAI) and Mr B. K. Zutshi (Former Indian Ambassador to GATT), for their guidance and valuable comments. We are also grateful to Dr Harsha Vardhana Singh (Deputy Director General, WTO and Former Secretary, TRAI), Dr Rajat Kathuria (Professor and Registrar, IMI) and Mr Sumanta Chaudhuri (Former Counsellor, Permanent Mission of India to the WTO) for their help in understanding the telecommunication sector and the complexities of international negotiations. We would like to thank Ramneet Goswami and Paramita Deb Gupta, Research Assistants, and Anil Kumar Gupta, Office Assistant, ICRIER, for their help in compiling the report. Thanks are also due to Mr Shamik Banerjee, Planman Consulting, and his survey team for successfully conducting the survey.

feature of the post-Uruguay Round agreements—or the New Age Free Trade Agreements (FTAs)—is that they not only liberalize trade in goods but also trade in services, investment and trade facilitation among others. Within trade in services, most of the FTAs have so far concentrated on liberalization of high growth services sectors such as telecommunication, transport, finance, and IT (information technology).

The US is India's major trading partner in services. As Members of the WTO (World Trade Organization), both India and the US are participating in the Doha Round of GATS negotiations. With the suspension of the Doha Round on 24 July 2006, the two countries have renewed focus on bilateral/regional agreements. In the past, both India and the US expressed an interest in entering into a bilateral agreement. While the Indian side emphasized on a bilateral agreement in services, the US wanted a more comprehensive FTA. A large number of studies, such as Panagariya (2004), Lawrence and Chadha (2004), Roy and Banerjee (2004), have been conducted to understand the impact of such an FTA. All these studies pointed out that India and the US have trade complementarities in services. Under an FTA, India can secure greater access to the US market in knowledge-based sectors such as IT in return for greater access of US companies in areas such as telecommunication, banking and insurance. However, none of these studies provide an in-depth analysis of the demands that India and the US can make on each other in specific service sectors of trade interest. To fill this lacuna, the present paper discusses in detail the scope for liberalizing the telecommunication sector under the proposed FTA.

Telecommunication is an important sector in all the US FTAs. It is an important sector covered under the Indo-Singapore CECA (Comprehensive Economic Cooperation Agreement)–the first (and, so far, the only) bilateral agreement signed by India encompassing the service sector. Trade in services between India and the US is highly dependent on the growth of the telecommunication network, connectivity and charges. Hence, any discussion of Indo-US FTA will be incomplete without discussing the possibilities for liberalizing this sector.

Objective and Structure of the Study

The objective of this paper is to analyse the possibilities of liberalizing the telecommunication sector under the proposed Indo-US FTA. It discusses the recent trends and developments in the telecommunication sectors in India and the US, identifies the areas (and modes) of bilateral trade interest and barriers to trade in telecommunication services. It highlights the demands that the US is likely to make if the two countries enter into negotiations for an FTA and India's negotiating strategies and options. It suggests various reforms which would enhance the efficiency and global competitiveness of the Indian telecommunication sector.

[1] See Hoekman and Braga (1997); Rajan and Sen (2002).

The structure of the paper is as follows: The first section discusses the coverage of the telecommunication sector under the GATS, the four US FTAs and the Indo-Singapore CECA. The second section analyses the developments in telecommunication sector in the US and India. It also identifies the trade complementarities between the two countries. Based on a survey, it discusses the current and potential trade between India and the US in the telecommunication sector. The third section evaluates the multilateral liberalization in this sector. The fourth section discusses bilateral liberalization in telecommunication. More specifically, it discusses the liberalization commitment undertaken in the four US FTAs and the Indo-Singapore CECA. The fifth section discusses the barriers faced by US companies in India and by Indian companies in the US. It also presents India's possible negotiating strategies, emphasizing on the demand that the US can make on India and the latter's negotiating strategies and options. The sixth section presents reform measures that are needed for the overall development of the sector and to gain from liberalization commitments undertaken bilaterally and in the WTO. The last section draws the main conclusions.

1. Coverage of the Sector

The telecommunication sector covers a wide range of services. The *Annex on Telecommunications* in the GATS defines telecommunications as 'the transmission and reception of signals by any electromagnetic means'. The *Annex* further defines public telecommunications transport service as 'any telecommunications transport service required, explicitly or in effect, by a Member to be offered to the public generally'. Such services may include, *inter alia*, telegraph, telephone, telex, and data transmission typically involving the real-time transmission of customer-supplied information between two or more points without any end-to-end change in the form or content of the customer's information. It also defines public telecommunications transport network as 'the public telecommunications infrastructure which permits telecommunications between and among defined network termination points'.

During the Uruguay Round of WTO negotiations, Members drew up a Services Sectoral Classification list (MTN.GNS/W/120) from the United Nations Central Product Classification (UNCPC) for the purpose of negotiations. In the W/120 telecommunication services are covered under Communication Services.[2] Table A1 in Appendix A compares the W/120 classification with the UNCPC. Under the W/120 classification telecommunication services is subdivided into two broad categories: basic services and value added services. These are further subdivided into 14 sub-sectors and a category 'others'[3] as shown in Table 1.1 below:

[2] Communication services covers five sub-sectors, namely, postal services, courier services, telecommunication services, audio-visual services and others.

[3] The category 'others' under telecommunication services covers everything else that is not included in the listed sub-sectors.

Table 1.1: Classification of Telecommunication Services under W/120

Basic Telecommunication	Voice telephone service
	Packet-switched data transmission services
	Circuit-switched data transmission services
	Telex services
	Telegraph services
	Facsimile services
	Private leased circuit services
Value-added Services	On-line information and/or on-line data processing (including Transaction processing)
	On-line information and data base retrieval
	Electronic data interchange (EDI)
	E-mail
	Voice mail
	Enhanced/value-added facsimile services, including store and forward, store and retrieve
	Code and protocol conversion
Others	

Source: WTO (8 December 1998) S/C/W/74

As shown in Table A1 in Appendix A, there are differences in W/120 classification and UNCPC and the former does not encompass all services covered in UNCPC and the latter itself has gone through several modifications over the years. In the telecommunication sector, there has been significant technological development and the distinction between many of the sub-sectors has become blurred with the adaptation of new transmission technologies, and the advent of service suppliers who distinguish themselves not by specialization in particular telecommunication services, but by the market segment they service. Although the GATS classification is somewhat out of date, the use of W/120 is not mandatory and governments do have their own sets of classifications; however, most Members have used W/120 for scheduling commitments in the Uruguay Round and for submitting requests and offers in the Doha Round.

In its initial[4] and revised offers[5] in the Doha Round, the US made minor modifications to the W/120 classifications. A comparison of GATS and the US definition and coverage of telecommunication services is given in Table 1.2. The US also has another category of services—'other communications services'—which includes services having characteristics of both audio-visual and telecommunications services. These include cable services provided over a cable system,[6] one-way satellite transmission of DTH (Direct to Home) and DBS (Direct Broadcast Satellite) television services and of

[4] WTO (2003) TN/S/O/USA

[5] WTO (2005), TN/S/O/USA http://www.ustr.gov/assets/Trade_Sectors/Services/2005_Revised_U.S._Services_Offer/asset_upload_file657_7760.pdf

[6] Central Product Classification (CPC) is not mentioned.

digital audio-visual,[7] programme transmission services (CPC 7524), television broadcast transmission services (CPC 75241), radio broadcast transmission services (CPC 75242) and radio and television combined programme-making and broadcasting services (CPC 96133).

Table 1.2: Comparison of GATS and the US Definition and Coverage of Telecommunication Services

	GATS	**U.S (as in the Revised Offer 2005)**
Definition of Basic Telecommunications	Basic telecommunications include all telecommunication services, both public and private that involve end-to-end transmission of customer supplier information.	The transmission between or among points specified by the user, of information of the users choosing, without change in the form or content of the information as sent and received. These services may be provided on a facilities basis or non-facilities basis, and encompass local, long-distance, or international services, for public or non-public use, and maybe provided through any means of technology.
Services included in Basic Telecommunications	(a) Voice telephone services (b) Packet-switched data transmission services (c) Circuit-switched data transmission services (d) Telex services (e) Telegraph services (f) Facsimile services (g) Private leased circuit services (o) Other	Same as in MTN.GNS/W/120 except 'other services'
Definition of Value-added services (in the US revised offer value added services are called Information Services)	Value-added telecommunication services are telecommunications for which suppliers “add value” to the customer's information by enhancing its form or content or by providing for its storage and	The offering of a capability for generating acquiring, storing, transforming, processing, retrieving, utilizing or making available information *via* telecommunications.

[7] CPC is not mentioned.

	GATS	U.S (as in the Revised Offer 2005)
	retrieval	
Services included in Value-added Telecommunications /Information services	(a) On-line data information and / or processing (b) On-line information and data base retrieval (c) Electronic data interchange (d) E-mail (e) Voice mail (f) Enhanced/Value-added Facsimile Services including store and forward, store and retrieve (g) Code and Protocol conversion	Same as in MTN.GNS/W/120 plus packet-switched information services

Source: Compiled by the authors from www.wto.org and US Revised Offer, http://www.ustr.gov/assets/Trade_Sectors/Services/2005_Revised_U.S._Services_Offer/asset_upload_file657_7760.pdf

In the four US FTAs-–US-Australia (signed in February 2004), US-Singapore (signed in February 2003), US-Chile (signed in December 2002) and US-Morocco (signed in June 2004)—which have been analysed for the purpose of this study, telecommunication services have been included as a separate chapter because of its role in economic growth and development. In these FTAs all telecommunication services offered to the public in general are covered except cable or broadcast distribution of radio or television programming. The FTAs provide a detailed definition of telecommunication services and various other terms used in the text, such as physical co-location, number portability, dialing parity, etc. which are present in the Communications Act 1934 of the US but are not defined in the GATS. The definitions of telecommunication as well as of the other terms vary across the FTAs. There are some modifications from the GATS definition of telecommunication. A comparison between the definitions in the GATS and in the four FTAs is presented in Table A2 in Appendix A.

With technological development, the distinction between telecommunication services and broadcasting services is becoming blurred. The US has been trying to highlight this in its WTO negotiations by creating a new category of services – 'other communication services'. However, in its FTAs, broadcasting services are not covered in the telecommunication chapter. This paper follows the structure of US FTAs and concentrates only on basic and value added telecommunication services.

In the Indo-Singapore CECA (which was signed on 29 June 2005 and came into force on 1 August, 2005), telecommunication services is covered in the *Trade in Services* chapter and, unlike US FTAs, there is no separate chapter on telecommunications. The

CECA has an Annex on telecommunication services which provides definitions of different terms such as public telecommunication transport service, public telecommunication transport network, interconnection, essential facilities, major supplier, etc. The definitions are similar to those in the GATS. The CECA follows a positive list[8] approach and the sub-sectors in which Singapore and India scheduled commitments are given in Table 1.3 and Table 1.4, respectively.

Table 1.3: Sub-sectors in which Singapore Scheduled Commitments in CECA *

1. Basic Telecommunication Services (facilities-based)
   a. Public Switched Services^ (local and international)
   b. Leased Circuit Services (local and international)

2. Mobile Services
   a. Public Mobile Data Service (PMDS)
   b. Public Trunked Radio Service (PTRS)
   c. Public Radio Paging Service (PRPS)
   d. Public Cellular Mobile Telephone Service (PCMTS)

3. Resale Basis
   a. Public Switched Services (local and international) (not including the use of leased circuits connected to the public switched network)
   b. Leased Circuit Services (local and international) (without connection to the public switched network)
   c. Public Cellular Mobile Telephone Services
   d. Public Radio Paging Services

4. Value-added Network (VAN) Services
   The services covered are-
   a. Electronic-mail
   b. Voice-mail
   c. On-line information and data-base retrieval
   d. Electronic data interchange
   e. On-line information and/or data processing

Source: Compiled by the authors from the Indo-Singapore CECA, http://commerce.nic.in/ceca/toc.htm
Note:
* Excludes services licensed and regulated under the Broadcasting Act (Cap.28).
Singapore's sectoral coverage of telecommunication services does not mention corresponding CPC.
^ This includes voice, data and facsimile services.

[8]In a positive-list approach, the countries list those industries or measures in respect of which obligations are to be undertaken. This kind of approach gives countries the flexibility to choose the sectors/sub-sectors and modes within those sectors/sub-sectors for making commitments.

Table 1.4: Sub-sectors in which India Scheduled Commitments in CECA *

1. Public Telephone Service (CPC 7521**)
    a. Public Local Telephone Service
    b. Public Long Distance Telephone Service
    c. Mobile Telephone Service

2. Packet Switched Data Transmission including Telex Services (CPC 7523**)

3. Circuit switched data transmission services (CPC 7523**)

4. Facsimile Service (CPC 7521** + CPC 7529**)

5. Private Leased Circuit Services (CPC 7522** +CPC 7523**)

6. Data and message transmission services:
    The services covered are-
    a. Electronic mail (CPC 7523**)
    b. Voice mail (CPC 7523**)
    c. On-line information and data base retrieval (CPC 7523**)
    d. Enhanced / value added facsimile services, including store and forward, store and retrieve (CPC 7523**)
    e. On-line information and/or data processing (CPC 843**)

7. Other
    a. V-Sat Services
    b. Radio Paging Service

8. Internet and Infrastructure Services
    a. Internet Services (with gateways)
    b. Internet Services (without gateways)
    c. Infrastructure Providers (Cat I)
    d. Infrastructure Providers (Cat II)

Source: Compiled by the authors from the Indo-Singapore CECA, http://commerce.nic.in/ceca/toc.htm

Note: * Excluding broadcasting services and measures affecting such services. Broadcasting is defined as a form of the uni-directional telecommunications intended for a large number of users having appropriate receiving facilities and carried out by means of radio or cable network. This may include sound transmission, television transmission or other types of transmission.

^ India's sectoral classification follows CPC. The use of '**' against individual CPC codes indicates that the specific commitment for that code shall not extend to the total range of services covered under that code.

2. The Telecommunication Sectors in the US and India: Policy Reforms, Market Structures and Present Degree of Openness

2.1 The Telecommunication Sector in the US

The US has one of the most developed telecommunication markets and is leading the world in convergence between broadcasting, internet and telecommunication services. Telecommunication market in the US has evolved rapidly in the past 20 years. Prior to 1984, AT&T and its Bell System functioned as a legally sanctioned private but regulated monopoly. Federal regulation was instituted by the 1934 Communication Act which established the Federal Communications Commission (FCC). The purpose of this Act was to make available a rapid, nationwide and worldwide wire and radio communications service with adequate facilities at reasonable charges to the people of the US. Over the years, technological changes lowered the cost of operations thereby reducing the cost of entry of would be competitors of the Bell System. As a result, gradually, FCC allowed competition which eventually led to the divestiture of the Bell System in 1984. The AT&T break up (Modification of Final Judgement (MFJ)) resulted in competition in manufacturing and long distance and information services, while regulated monopoly prevailed in local telephony. A direct effect of the break up was the entry of facilities-based carriers such as MCI, Sprint, LDDS-World com and Frontier in long distance. A large number of 'resellers' (those who buy wholesale service from facilities-based long distance carriers and sell them to consumers) also entered the market. In a competitive market, the US customers had a wide range of choice of service providers and services while telecommunication companies had to compete on a variety of different fronts—quality, cost, diversity of service—which led to technological innovations and developments. The regulatory regime had to keep pace with these developments, address predatory pricing and interconnection issues as well as enable the growth of a competitive environment.

The need to change the regulatory regime resulted in the announcement of the Telecommunications Act of 1996 which radically changed the US telecommunications market. This Act attempted to reduce regulatory barriers to entry and competition in monopolized local exchange markets. The Act focused on increased competition for development of new services in broadcasting and cable, telecommunications, information and video services and created a number of new classes of telecom operators. It abolished many cross-market barriers that prohibited dominant players from one communication industry from providing services in other industry segments. Mergers and acquisitions, consolidations and integration of services were allowed for the first time.[9]

The 1996 Act made the US one of the most competitive telecommunication markets in the world–both for domestic and long distance services. In 2001, 52 facilities-based and facilities-resale carriers provided international telephone services – many of them were foreign-owned. In 2002-03, 29 foreign-owned companies filed international circuit status reports. All these companies were facilities-based carriers (either own or leased facilities). In addition, 625 carriers provided international message telephone service on a pure resale basis, reselling the services of underlying US facilities-based and

[9] Economides (1998).

facilities-resale carriers.[10] Liberalization and intense competition lowered prices of services drastically. The US market prices for most telecommunication services (for example, fixed and wireless telephone charges, internet access charges and charges of leased circuits) are below the OECD (Organization for Economic Cooperation and Development) average, particularly when compared with purchasing power parity.[11] Many countries, including developing countries, have taken the US example and started liberalizing and de-monopolizing their telecommunication systems.

Given that the telecommunication sector is progressing at a fast pace, there has been growing realization in the US that the 1996 Act needs to be revised. Various proposals are currently under discussion to bring the regulatory framework at par with technological developments and facilitate privatization.[12]

The US telecommunication companies were pioneers in establishing global presence. [13] One of the reasons for this is intense competition in the domestic market. The 'dot.com' bust has slowed down the growth of the US telecommunication sector. Many sub-sectors of telecommunication in the domestic market are approaching maturity, forcing companies to provide new services and explore new markets. These factors reflect the strong interest of the US in seeking market access opportunities in developing countries such as India that have a growing telecommunication market.

2.2 The Telecommunication Sector in India

Before the mid-1990s, the government was the sole provider of telecommunication services in India and all telecommunication services were provided by the incumbent monopoly–the Department of Telecommunication (DoT). The first step towards deregulation was the announcement of the National Telecommunication Policy (NTP 1994). Prior to 1994, telecommunication service was considered as a mere luxury but NTP 94 aimed at providing quality services to all. It recognized the importance of universal service obligation—providing telephones on demand to all Indian villages. It envisaged India as a major manufacturing and export base of telecommunication equipment. NTP 94, for the first time, allowed private/foreign players to enter the 'basic' (or last mile wire line) and the 'new' cellular mobile sector. Foreign direct investment up

[10] WTO (17 December 2003) WT/TPR/S/126

[11] WTO (17 December 2003) WT/TPR/S/126

[12] For instance, Senator John Ensign introduced a bill named Broadband Investment and Consumer Choice Act in 2005 which, if implemented, is expected to reduce regulatory bottlenecks (by eliminating local regulations in a number of areas and creating uniform federal rules including federal consumer protection standards) and broaden consumer choice (by giving telecommunication and IT industries greater ability to compete with each other). Under the bill, companies would no longer have to apply with local authorities for a franchise to offer video services—a costly and time consuming exercise. The bill would, therefore, allow telephone companies to start offering video services to homes on a broad scale through their phone lines and compete with cable television companies. Another bill, Preserving Innovation in Telecom Act (HR 2726), has also been initiated which prohibits municipal governments from offering telecommunications, information or cable services except to remedy market failures by private enterprises.

[13] As early as 1999, eight of the world top 20 public telecommunication operators, six of the top 20 mobile cellular operators and three of the top 10 international carriers in terms of revenues were US companies. (International Telecommunication Union (ITU) and Kathuria (2004)).

to 49 per cent of total equity was also allowed in these two areas. The policy allowed one private service provider to compete in basic services with the incumbent DoT in each DoT internal circle. It allowed duopoly in cellular mobile services in each circle. As part of the implementation of the NTP 94, licenses were issued against license fees through a bidding process. This policy initiated the setting up of an independent regulator–the Telecom Regulatory Authority of India (TRAI), which was established in 1997. The main objective of TRAI is to provide an effective regulatory framework to ensure fair competition while, at the same time, protect the interest of the consumers.

Although NTP 94 was a major step towards liberalization, there were some problems in its implementation. These were related to the provision of a suitable and transparent environment for the entry of private service providers. First, there were very high bids in many circles which made these projects financially unviable. As a consequence, many private operators were unable to make payments to the government. Second, lack of transparency and uncertainty in the tender process and tender document led to apprehensions in the minds of private firms. In fact, many international companies which had placed bids in the first round did not bid in the second round. Third, unlike developed countries where the setting of an independent regulator preceded the introduction of competition in the telecommunication sector, in India there was a reversal of sequence with the regulatory body being set up after NTP 94. Fourth, though the policy was able to introduce competition, the implementation was left in the hands of the incumbent, DoT. Moreover, the government opened up the basic services first rather than long distance services which are more profitable than the former in the short run.[14]

The inadequacies of NTP 94 led to the formulation of a new, more elaborate policy–the NTP 99—which tried to rescue the private players by restructuring their licensing agreements. This policy was more comprehensive and reflected a new vision, direction and commitment. It recognized the role of investment in the economy and the convergence of IT, media, telecommunication and consumer electronics. It envisaged the provision of telecom services to all Indian villages at affordable prices. It led to a shift towards a system of one-time entry fee combined with revenue-sharing payments from the license fee bid system, while duopoly rights were discontinued in order to allow for unlimited competition. The private sector was allowed to provide domestic long distance services and—from April 2002—international long distance voice services with no restriction on the number of participants.

In 1999, the Telecommunication Tariff Order (TTO) was implemented, which tried to rebalance tariffs in order to reflect costs more closely and enhance competition. One of the main objectives of this order was to reduce long distance and international call charges, reduce leased circuit charges and increase rentals and local charges. A disagreement between the TRAI and the government led to the amendment of the TRAI Act 1997 in 2000. Under the TRAI (Amendment) Act 2000, the role of TRAI was more clearly defined and separated from those of the Telecom Disputes Settlement and Appellate Tribunal (TDSAT). The latter was created through this Act. TRAI was given the power to provide recommendations on various aspects and to implement conditions of licensing. The only clear function of TRAI today is interconnection and even this has

[14] For details see Virmani (2004 and 2000), Mukherjee (2004) and Dossani (2003).

been constrained by TDSAT. The government is required to seek recommendation from TRAI before issuing new licenses but retains the authority on all policy matters. TDSAT has been given the power to adjudicate on disputes between licensor and licensee, between service providers and between service providers and consumers. TDSAT is also the appellate authority in respect of any directions, decisions and orders of TRAI. A series of liberalization measures were undertaken thereafter at the initiation and recommendations of TRAI and based on NTP 99 due to which the telecommunication sector witnessed rapid developments. Liberalization measures since early 1990s till date are listed in Appendix B.

During the past 15 years the telecommunication sector of India has witnessed major changes due to liberalization and technological progress. Today, there are no restrictions on the entry of new players in basic, NLD (national long distance), ILD (international long distance), ISP (internet service provider) and infrastructure businesses. Four operators are allowed in cellular mobile in each service area. This has led to intense competition and a downward trend in tariffs. Some of the strategies being employed by service providers to compete in the market are bundling, segmentation across subscriber types and customization. Due to intense competition, many private players found it difficult to remain financially viable. This led to mergers and acquisitions and the emergence of a few big players. India, now, has one of the largest telecommunication networks in the world.

2.3 Investment in the Telecommunication Sector: Opportunities for the US Companies

India offers significant investment opportunities for US companies. This is because there has been a series of reforms in the telecommunication sector since 1991. The country's GDP (Gross Domestic Product) is growing at a fast pace. India has a huge population but the number of telephone lines and cellular phone per 1000 people is low even when compared with low and middle income countries (as shown in Table 2.3.1). In terms of its contribution to the GDP, telecommunication revenue in India accounted for 1.6 per cent of the GDP in 2002, which is below the world average of 3.1 per cent.[15] Moreover, India's telecommunication revenue is less than 1 per cent of the world's telecommunication revenue. The growth of India's knowledge-based sector is directly dependent on the speed of development of the telecom network. Hence, the country needs investment in this key infrastructure sector.

Foreign equity is important for the growth of the telecommunication sector in India since it leads to better incentives for technology transfer and improved management leading to lower prices and better services. When FDI was first allowed in this sector it helped the domestic players in two ways. First, Indian operators were able to share risks. In fact, most players minimized their own equity and maximized the foreign equity. Getting equity from abroad was an attractive source of capital for domestic players in the early stages since it was a costless form of finance until profits were made. Second,

[15] World Telecommunication Development Report (2003)

domestic operators imported most of the equipments from abroad and foreign equity was able to finance it.

Table 2.3.1: Comparison of Countries by Main Telephone Lines and Mobile Usage (2004)

Country	Population (Million)	Per Capita GDP (PPP)	Annual GDP Growth Rate	Telephone mainlines per 1000 people	Mobile phone subscribers per 1000 people
Kenya	33.47	1047.40	4.34	8.94	76.08
Moldova	4.22	1588.82	7.30	204.69	186.59
Bangladesh	139.21	1718.89	6.27	5.94	31.09
Bolivia	9.01	2499.43	3.58	69.42	199.89
Georgia	4.52	2613.55	6.20	151.22	186.06
India	**1079.72**	**2885.29**	**6.90**	**40.71**	**43.81**
Sri Lanka	19.42	4034.26	5.36	51.04	113.86
Egypt, Arab Rep.	72.64	3870.00	4.20	130.28	105.22
Morocco	29.82	3960.63	4.24	43.88	313.07
China	1288	4980[f]	9.3	209	215
Thailand	63.69	7434.98	6.17	106.71	429.85
Brazil	183.91	7531.40	4.90	230.45	356.72
Mexico	103.80	9009.75	4.36	174.12	370.45
Chile	16.12	9993.46	6.06	205.80	593.32
Argentina	38.37	12221.68	8.98	226.73	352.15
Singapore	4.24	25803.95	8.41	439.59	910.45
Germany	82.52	26012.52	1.57	661.08	864.27
UK	59.87	28326.49	3.14	562.92	1020.60
Japan	127.76	26883.76	2.70	460.13	715.96
Australia	20.11	27876.01	3.00	540.60	817.91
Canada	31.97	28732.35	2.90	..	468.64
US	**293.66**	**36464.68**	**4.20**	**605.97**	**616.73**

Source: Extracted from World Development Indicators (2006), World Bank.
Notes: (1) Telephone mainlines are fixed telephone lines connecting a subscriber to the telephone exchange equipment. (2) Mobile telephone subscribers are subscribers to a public mobile telephone service using cellular technology.

In the auctions of 1992-96, DoT made it mandatory for bidders for the license to have a foreign partner. The US companies were one of the first to enter the Indian market.[16] This was because very few countries, at that time, were fully liberalized to allow their private companies to invest abroad. Apart from telecommunication companies, financial institutions (for example, American International Group, Incorporation) and equipment manufacturers from the US (for example, Hughes Electronics Corporation) also entered into joint ventures with Indian private companies. Table 2.3.2 shows that the US ranked third among the foreign investors in terms of actual inflow of FDI in the Indian telecommunication sector during the period - 1991 to 2004.

[16] Hong Kong was another country from which private companies entered the Indian market.

Table 2.3.2: Top Five Countries in terms of Actual Inflow of FDI in the Telecommunication Sector (August 1991 to March 2004)

Country	FDI (Rs in Million)	Percentage
Mauritius	71998.01	72.35
UK	8875.89	8.92
USA	4904.76	4.93
Netherlands	3157.57	3.17
Thailand	2211.60	2.22
Total	99508.93	

Source: Extracted from Department of Telecom, Government of India, http:www.dot.gov.in/osp/Investment%20Policy/FDI%20Inflow%20-%20Country-wise.htm

2.4 Survey Findings–Indo-US Trade in Telecommunication

Although there are many studies on the Indian telecommunication sector, none of them specifically focus on Indo-US trade in telecommunication services. To fill this lacuna, a survey was conducted to understand the trade complementarities between these two countries in telecommunication services. The survey provided a snapshot of the areas of operation, mode of entry, future expansion plan of the US companies in India and the Indian companies in the US. It listed the barriers faced by companies from the two countries in each others' market. Companies discussed their expectations from the FTA and expressed their views on the type of reforms required to attract more FDI into India and to sustain the growth of this sector.

The survey was based on semi-structured questionnaires. Two sets of questionnaires were designed–one for the US companies in India and the other for the Indian companies in the US. Since there are very few US companies in India and Indian companies in the US, the survey tried to cover most of them. Appropriate steps were taken to ensure that samples covered companies across different service lines and areas of operation. Information was collected through on-site visits and interviews were conducted with either CEOs or managing directors or senior business development/analyst personnel (in the case of the larger companies). Sampling was done in Chennai, NCR (National Capital Region), Kolkata, Mumbai, Hyderabad and Bangalore. The sampling frame was drawn from both the NASSCOM (National Association of Software and Services Companies) and non-NASSCOM Members. Some

telecommunication companies such as Reliance Infocomm did not participate in the survey while VSNL partly replied to the questionnaire despite repeated on-site visits. The information on these companies was collected through other means such as web browsing. Another important limitation of the survey is that companies were hesitant to share financial data such as amount of current investment and future investment plans. The interviews typically lasted for 45 minutes to an hour. The survey was executed by Planman Consulting, New Delhi.

Table 2.4.1 lists the US companies in India, their date and mode of entry and areas of operation. Table 2.4.1 shows that the US companies are operating in India in different areas, such as manufacturing of telecommunication equipment, software, R&D and telecommunication services. It also shows that although the Indian telecommunication market is expanding and the FDI regime has been relaxed, the US companies have not entered in a big way in provision of telecommunication services. All companies have acknowledged that India is a growing telecommunication market and they foresee expansion of operations in the future. They have pointed out that US telecommunication products and technologies are highly regarded in India. There is significant scope for US companies to set up a manufacturing base and outsourcing software services to India since the latter has certain advantages such as low-cost skilled manpower. The US companies also pointed out that telecommunication is a priority sector for both countries in an FTA negotiation. The sector would gain directly and indirectly from an FTA. On one hand, the FTA is likely to remove the existing barriers faced by companies in each others' markets and, on the other, it would lead to an expansion of trade in complementary sectors such as software and BPO (Business Process Outsourcing), which would in turn create demand for telecommunication services.

Table 2.4.1: The US Telecommunication Companies in India

Name of the Company	Year of Entry	Mode of Entry	Area of Operation
AT&T Communication Services India Private Limited Parent Company: AT&T Communication, Inc. (AT&T)	1994 (First entered in cellular service provision)	Wholly-owned subsidiary	Earlier, AT&T Wireless had a joint venture with the Birla and the Tata Group in Idea Cellular Services. Now they have pulled out of it. Currently, they are providing VPN services, International End to End ATM services, Remote Access Service (IP) service, International End to End Frame Relay services
Avaya Global Connect Parent Company: Avaya Global Connect Ltd.	1987	Earlier called Tata Telecom (JV between Tata and Lucent). In 2004, Avaya Global Connect was formed as a separate entity with the break up of the joint venture	R&D, CRM/ ERP, Expert Systems (Software led service support system)

Name of the Company	Year of Entry	Mode of Entry	Area of Operation
		(JV).	
CSG Systems India Private Limited *Parent Company:* CSG Systems, Inc.	1999	Entered as a part of Lucent Technologies. In 2002, separated from Lucent and now is a wholly owned subsidiary of CSG Systems, Inc.	Development of software
Agilent Technologies *Parent Company:* Agilent Technologies International	2001	Wholly-owned subsidiary	Manufacturing and R&D
Hughes Communications India Ltd. (Formerly Hughes Escorts Communications Limited) *Parent Company:* Hughes Network System Inc.,	1991	Joint venture between Hughes Network System Inc., and Escorts Ltd.	Services in Networking, e-commerce and Global Education
Cisco Systems India Private Limited *Parent Company:* Cisco Systems, Inc	1994	Wholly-owned subsidiary	Manufacture of network equipment, R&D

Source: Compiled by the authors from the survey.
Notes: The information is as of May 2006.

Recently, a few Indian companies have entered the US market. Table 2.4.2 lists the Indian companies, their year of entry and areas of operation in the US. Since the companies have just started their operations and are still evaluating the market, they were not willing to disclose certain information such as future expansion plans. Most of the Indian companies have entered the US for long distance exchange of voice and data. They have developed their own business model. For instance, Bharti has entered into strategic alliances with American carriers for termination of calls while the Reliance group amalgamated the US-based Flag Telecom for $ 211 million (roughly Rs 950 crore or Rs 9.50 billion) in January 2004. Indian companies also reiterated that telecommunication is a priority area for the FTA negotiations. They, however, pointed out that given the cost of establishing a presence in the US, most of their future operations would be confined to long distance service provision.

Table 2.4.2: Indian Telecommunication Companies in the US

Name of the company	Year of entry	Mode of entry	Area of operation
Data Access	2002	Earlier was a wholly owned subsidiary. Now expected to be taken over by a U.S company - Level 3	Exchange of voice and data. Has obtained the International Common Carrier 214 License from FCC. Currently, provides services such as : Long Distance Inter-Exchange Carrier Service, Pre-Paid Calling Card Platforms, IPLC Point to Point, Switched IPLC, IP-VPN, etc.
VSNL	2003	Wholly owned subsidiary: *VSNL America Inc*	Has obtained the International Common Carrier 214 License from FCC. The subsidiary was set up in order to provide IP-VPN solutions. They act as a carrier for data for the US operators and share revenue on pre identified rates. Has set up local points of presence (PoP) in San Francisco, New Jersey and New York. It provides calling card services to US citizens and NRIs called Global Calling Card.
Reliance Infocomm	2003	Wholly-owned subsidiary : *Reliance Communication Inc (USA)*	Has obtained the International Common Carrier 214 License from FCC. It has set up local points of presence (PoP) in New York and New Jersey. It provides calling card services to US citizens and NRIs called Reliance India Call.
Bharti Tele-Ventures	2002	They do not have any commercial presence in the U.S. They have strategic alliances with 30 - 40 U.S carriers for termination of calls.	Exchange of voice and data. Has obtained the International Common Carrier 214 License from FCC. Provides services such as: voice calls, calling cards, internet services.

Source: Complied by the authors from the survey.
Notes: The information is as of May 2006.

3. Multilateral Liberalization in Telecommunication

This section discusses the liberalization undertaken by India and the US in telecommunication services under the WTO. An analysis of the multilateral liberalization is necessary to understand how much more the two countries can gain if they enter into a bilateral FTA.

The Uruguay Round (1986–94) of the WTO negotiations introduced services for the first time into the multilateral trading system. The GATS, which came into force on 1 January 1995, envisages progressive liberalization of trade and investment in services through periodic rounds of negotiations. A broad framework of GATS is given in Appendix C. The Uruguay Round was the first round of negotiations. The second round–the Doha Round–is on-going.

As Members of the WTO, India and the US are actively participating in the Doha Round of services negotiations. The negotiations are based on the request-offer approach, that is, each country would make bilateral requests to its trading partner to remove barriers in areas of its export interest but commitments would be multilateral. Accordingly, WTO Members have made their bilateral requests to their trading partners in areas of export interest and some Members have submitted their initial/revised offers.

India has received requests from many countries including the US in telecommunication services but it did not make any request in this sector. Both India and the US have submitted their revised offers.

During the Hong Kong Ministerial Conference in December 2005, it was decided that Members could enter into plurilateral negotiations, which would complement the existing bilateral request-offer process. The timeline for submitting the plurilateral requests was 28 February 2006, for making a second round of revised offer 31 July 2006 and for submitting the final draft schedule of commitments 31 October 2006. Singapore coordinated the plurilateral request in telecommunication services along with countries such as the US, Australia, Canada, the European Union (EU) and Japan. Some target countries were India, Argentina, Brazil, Switzerland, China, Chile, Egypt, South Africa and Malaysia.

The WTO negotiations were suspended on 24 July 2006 after the talks on agriculture (market access and domestic support) and NAMA (Non-Agricultural Market Access) between the six major Members--Australia, Brazil, the EU, India, Japan and the US—broke down on 23 July 2006. Hence, the revised offers were not tabled on 31 July 2006 and the services negotiations reached a temporary deadlock. It will take sometime for the negotiations to gain momentum.

3.1 Uruguay Round of Negotiations

The WTO rules and disciplines relevant to the telecommunication sector are contained in the GATS and the *Annex on Telecommunications* which came into force in January 1995. Telecommunication was one of the four sectors[17] where negotiations continued after the end of the Uruguay Round in 1994. The extended negotiations on market access, which formally entered into force on 5 February 1998, achieved significant liberalization. In addition, concerns relating to the establishment of a regulatory environment conducive to market entry were discussed at length during the negotiations. As a consequence, Members offered to make additional commitments on regulatory disciplines—known as the *Reference Paper on Basic Telecommunications*.

The purpose of the Annex on Telecommunications was to recognize the dual role of telecommunications—one as a distinct sector of economic activity and another as the underlying transport means for other economic activity. The objective of the Annex was to elaborate upon the provision of the GATS with respect to measures affecting access to and use of public telecommunications transport network and services. The Annex comprises of seven sections, but its core obligations are contained in the section on access to and use of public telecommunications transport network and services. The Annex requires each member to ensure that all service suppliers seeking to take advantage of scheduled commitments are accorded access to and use of public basic telecommunications—both networks and services—on a reasonable and non-discriminatory basis. Members incur these obligations whether or not they have

[17] Others were financial services, maritime transport services and movement of natural persons.

liberalized or scheduled commitments in the basic telecommunications sector. This is because the Annex addresses access to these services by users rather than the ability to enter the markets to sell such services; the latter is addressed in schedules of commitments.

During the course of the negotiations Members felt that the Annex on Telecommunications was not strong enough to ensure access for foreign telecommunication companies seeking to provide services in direct competition with dominant national incumbents. Hence, they drew up the Reference Paper which laid down regulatory disciplines that would guard against anti-competitive behaviour by incumbents and promote competition. Adherence to the principles of the Reference Paper was voluntary and subject to whether or not WTO Members inscribed them into their schedules as additional commitments. The Reference Paper includes commitments to:[18]

- Adopt safeguards to protect against anti-competitive behaviour including use of cross subsidy or misuse of information;
- Establish terms and conditions for non-discriminatory interconnection to be provided by major suppliers, under conditions, rates and quality no less favourable than that provided to all other suppliers of like services;
- Provide interconnection in a timely manner on transparent and reasonable terms and conditions and at cost-oriented rates;
- Recognize the legitimacy of universal service obligation, provided that these do not act as a surrogate form of protection;
- Utilize transparent (that is, publicly available) criteria in licensing;
- Establish an impartial regulator, independent of any service supplier;
- Utilize objective, timely, transparent and non-discriminatory procedures for allocation of scarce resources such as radio frequencies, numbers and rights of way.

As of January 2000, 93 WTO Members have scheduled commitments in telecommunication services. Of these, 83 Members (all industrialized countries and many developing countries) have scheduled commitments in basic telecommunication services while 72 Members (fewer developing countries) have made commitments in value added services. In addition, 72 Members have committed on all or some aspects of the Reference Paper. While the majority of them have accepted it entirely, a few (including India) accepted it with certain modifications.

Modes 1 and 3 are main modes of trade in telecommunication services. An analysis of the Uruguay Round commitments shows that countries have imposed more limitations on basic than value added services across all modes of trade. Developed countries have imposed fewer restrictions than developing countries. Some commonly

[18] For details see Kathuria (2004).

listed market access limitations include restrictions on type of legal entity, limitations on the number of suppliers, restrictions on foreign equity participation, nationality and residency requirements, authorization requirements, etc. These are mostly associated with commercial presence (Mode 3). A number of countries have imposed 'other measures' which include requirement to use monopoly network facilities, prohibitions against interconnection with other leased circuits by suppliers, restrictions on resale of excess capacity of leased circuits and the like. Many countries including developing countries such as Bangladesh, India, Pakistan, Sri Lanka, Brazil, Argentina and Turkey have undertaken MFN exemptions.

India's own commitments in the Uruguay Round were limited both in terms of sectoral coverage and modes of delivery and the country did not even bind the existing regime. In data and message transmission services (value added services) including electronic mail, voice mail, online information and database retrieval, enhanced value added facsimile services (including store and forward and store and retrieve) and online information and/or data processing India offered full commitments in Mode 1, left Mode 2 unbound and offered partial commitments in Mode 3 (51 per cent foreign equity only with local incorporation). Under basic services, India's commitments covered voice telephonic services (limited to local/long distance, for public use over a public telecommunications transport network, wire based), circuit switch data transmission services, facsimile services, private leased circuit services and other services within which India offered commitments in cellular mobile telephone services. For basic services, the country left Modes 1 and 2 unbound. Commitments in Mode 3 were partial and subject to various restrictions such as limitations on the number of operators, the private operator have to be a company registered in India with total FDI not exceeding 25 per cent, etc. In addition, there were certain regulatory requirements such as licensing requirements, etc. Commitments in Mode 4 were to the extent stated in the horizontal schedule. India undertook MFN exemptions with respect to accounting rates. The country offered additional commitments to review the (a) opening up of national long distance services beyond service areas to competition in 1999 and (b) opening up of international services to competition in 2004. India was one of the few countries which did not accept some disciplines of the Telecom Reference Paper. The Telecom Reference Paper and the revised text as committed by India in the Uruguay Round (which excludes some provisions of the Reference Paper) are compared in Table D1 of Appendix D.

3.2 Doha Round of Negotiations

Since the beginning of the Doha Round countries have presented negotiating proposals that reflect their interest in liberalizing particular modes/sectors. Some countries including the US, EC, Mexico, Australia, Columbia, Switzerland, Republic of Korea and Canada have submitted negotiating proposals on telecommunication services. Among them, the US presented the most comprehensive proposal. The US proposal[19] urged member countries to offer full commitments in basic and value added services. It pointed out that although some countries such as India, Singapore and Korea have

[19] WTO (18 December 2000) S/CSS/W/30.

unilaterally liberalized this sector, this has not been reflected in their multilateral commitments. While privatization is an important first step towards liberalization, it should be combined with viable competition or else it could lead to anti-competitive behaviour by the private operators occupying dominant position in the market. In this context, WTO member countries should fully adhere to pro-competitive regulatory principle—the Reference Paper on Regulatory Principle for Basic Telecommunication. Commitments should be technology neutral. The US has pointed out that value added services have largely grown in a competitive non-regulated environment. In future, member countries should ensure that any regulation in this sector should not be burdensome on competitive providers of these services. The proposal also stated that Members should offer full commitments in complementary services such as distribution services, computer-related services, advertising services, express delivery services and certain financial services that are increasingly integrated into network-based transactions.

On July 2005, the US, along with countries such as Australia, Canada, China, Hong Kong and Singapore submitted a communication[20] on liberalization of telecommunication services. It pointed out that telecommunication infrastructure is an important driver of economic growth and liberalization of this sector leads to economic development, stimulating innovation and diffusion of information and communication technologies. It also pointed out that telecommunication services are key inputs into domestic, regional, and international trade thereby helping providers of goods and services to enter markets all over the world. They are the backbone of internet and e-commerce, enabling online procurement, delivery of goods or services through electronic means, facilitating the growth of business process outsourcing and helping companies to increase their productivity by focusing on core competencies.

The interest of a country in liberalizing a particular sector is more strongly reflected in its request list to its trading partners. India received requests from 25 countries, including all major developed and developing countries, in a large number of sectors. Around half of them, including the US, Japan, EC, Singapore, Malaysia, Australia, Brazil, Sri Lanka and China, have made requests in the telecommunication sector. The large number of requests reflects the interest of India's trading partners in gaining greater market access in this sector. Most of these requests focus on broadening the coverage of sub-sectors, offering full commitments in market access and national treatment under Modes 1, 2 and 3 and full commitments to the Reference Paper. Countries have also requested India to improve transparency, explain rationale for license fee, clarify terms and condition for licensing (EU, Brazil, Korea), clarify whether ENTs (Economic Needs Tests) exist in basic telecommunication services (Korea, Japan) and, if they do, to remove them. The US has specifically requested India to commit fully to basic telecommunication services, value added services and to the Telecom Reference Paper. In addition, the US has requested India to remove the MFN exemptions.

In its revised offer the US has made minor changes in the sectoral coverage of telecommunication services, as shown in Table 1.2. In the Uruguay Round the US had offered full commitments in Modes 1, 2 and 3 under market access and national

[20] WTO(1 July 2005) TN/S/W/50.

treatment. Commitments in Mode 4 were to the extent stated in the horizontal schedule. In its revised offers in the Doha Round, the US offered full commitments in market access and national treatment under Modes 1 and 2. In Mode 3 there are no national treatment restrictions. For market access, there are some restrictions on ownership of a common carrier radio license.[21] Commitments in Mode 4 are to the extent stated in the horizontal schedule. The US also offered additional commitments which are beyond the provisions of the Reference Paper. These include commitments to maintain an absence of national government ownership of public telecommunication services; permit licensed suppliers of basic telecommunications services the choice of technology used for the supply of services, subject to requirements necessary to fulfil legitimate public policy objectives; ensure that the local exchange carriers provide dialing parity, number portability where technically feasible; etc.

India submitted its revised offer in August 2005. The revised offer shows significant improvement over the Uruguay Round commitments and initial offer (submitted in January 2004). In the revised offer, the sectoral coverage has been broadened to include sub-sectors such as packet switched data transmission services and radio paging services. The FDI limit has also been increased in different sub-sectors. Even in the revised offers, India did not commit fully to the Reference Paper. A comparison of the text of the Reference Paper and India's commitment to the Reference Paper in the Uruguay Round and in its revised offer is given in Table D1 of Appendix D.

The progress of the negotiations prior to the Hong Kong Ministerial was slow. Many WTO Members had not submitted their initial/revised offers and many of the offers that were submitted did not reflect the autonomous liberalization in the telecommunication sector that the countries had undertaken since the Uruguay Round. The Hong Kong Ministerial Declaration outlined the need to intensify negotiations towards achieving meaningful liberalization. The Annex C of the Hong Kong Ministerial Declaration pointed out that in order to achieve a higher level of liberalization, Members should undertake commitments at the existing level of market access on a non-discriminatory basis across sectors of interest to trading partners for Modes 1 and 2. It also requested Members to remove the existing requirement of commercial presence for offering services under Modes 1 and 2. In Mode 3, Members were requested to undertake commitments to enhance the level of foreign equity participation, remove or substantially reduce ENT and allow greater flexibility on the type of legal entity. In Mode 4, Members were asked to undertake new or improved commitments on (a) contractual service suppliers and independent professionals delinked from commercial presence and (b) intra-corporate transferees and business visitors. Annex C pointed out that commitments made in these four categories should reflect removal or substantial reduction of ENT and indicate the prescribed duration of stay and possibilities of renewal. Annex C also pointed out that Members should remove or substantially reduce MFN exemptions and clarify the remaining MFN exemptions in terms of scope of application and duration. This has

[21] For details, see WTO (2005), TN/S/O/USA *http://www.ustr.gov/assets/Trade_Sectors/Services/2005_Revised_U.S._Services_Offer/asset_upload_file657_7760.pdf*

implications for the telecommunication sector as India and many other developing countries have taken MFN exemptions in telecommunication.

Annex C pointed out that in order to expedite the negotiations, in addition to the request-offer approach, Members can enter into plurilateral negotiations in accordance with the principle of GATS and the Guidelines and Procedures for Negotiations on Trade in Services. The timeline for submitting the plurilateral requests was 28 February 2006. Around 35 WTO Member countries participated in the plurilateral negotiations. Plurilateral requests were made in 16 sectors, all four modes and in MFN exemptions. Singapore coordinated the request in the telecommunication sector which was supported by all major developed countries including the US. India along with many other countries (mostly developing countries) received the request. Overall, the plurilateral request aimed to achieve significant liberalization in this sector. The requesting countries have pointed out that the commitments should have commercially meaningful coverage of all sub-sectors listed in W/120 (given in Table 1.1), in particular, voice and data transmission services and leased circuit services (through any means of technology) and value added services. In Mode 1, the target countries have been requested to remove national treatment limitations. In market access, countries have been asked to make binding commitments and remove limitations such as requirement to use networks of specific suppliers, requirement of commercial presence and requirement for commercial arrangements. In Mode 2, countries have been requested to remove all market access or national treatment limitations. In Mode 3, the target countries have been asked to remove all national treatment limitations and have no substantial market access limitations. Specifically, countries have to remove restrictions such as limitations on the establishment or number of service suppliers (for example, quotas, exclusive service suppliers or geographical restrictions within a Member state's territory), ENT and restrictions on the type of legal entity. Target countries have been asked to allow majority foreign capital participation and effective control. In value added services such as electronic mail, voice mail, online information and database retrieval, electronic data exchange, etc., and for all telecommunication services provided on a non-facilities or resale basis, demandeurs have requested for removal of all limitations on Modes 1, 2 and 3. In Mode 4 the US was not a requesting member, but will be a deemed recipient. The Mode 4 request in this sector focused on making new or improved commitments in two categories—intra-corporate transferees and business visitors, no additional limitations beyond horizontal limitations and no exclusion of telecommunication services from horizontal Mode 4 commitments. The plurilateral request also called for the removal of MFN exemptions and full commitment to the Reference Paper.

A comparison between India's revised offers and the plurilateral request clearly shows that the latter is much more ambitious than India's revised offer. For instance, in its revised offer, India kept Mode 1 unbound for voice telephone services, the FDI limit to 49 per cent and imposed several market access limitations such as prohibiting the resale of voice telephone services. Also, India has not committed fully to the Reference Paper. There were two rounds of plurilateral discussions prior to the suspensions of the Round. The discussions focused on exchange of information on the policy regimes of different countries, clarification of doubts, explanation to what extent the request can be

met, etc. India made it clear that it would partially meet the request in telecommunication services.

The services negotiations received a temporary setback due to the suspension of the Doha Round. With the slow progress of multilateral liberalization, countries have started focusing more on bilateral and regional agreements.

4. Bilateral versus Multilateral Liberalization

In recent years the US has signed several bilateral agreements–both with developed and developing countries—and is in the process of negotiating many more. India, too, is in the process of negotiating bilateral/preferential/regional agreements with countries such as Sri Lanka and regional groups such as ASEAN. India has already signed the Indo-Singapore CECA.

In the Indo-Singapore CECA India made commitments in nine sectors and Singapore in twelve sectors. However, India's commitments in the CECA are below the levels of unilateral liberalization. The chapter on 'Trade in Services' in the CECA states that all juridical persons[22] registered in Singapore or India are included irrespective of ownership or control. That is, the benefits of the CECA would extend to the citizens, permanent residents, local companies as well as foreign MNCs (multinational companies) that are constituted or otherwise organized in India or Singapore. However, there is a special carve-out for education, audio-visual, telecommunication and financial services sectors. In these sectors, there would be requirement of ownership and/or control by persons of both countries. In the telecommunication sector, the requirement of ownership and/or control by the persons of India and/or Singapore would apply for a period of three years, after which it would be reviewed. It has been agreed that 17 telecommunication companies of Singapore, which are owned and controlled by persons of Singapore, would continue to be treated as juridical persons of Singapore even if they were to divert later their majority shareholdings to person of third country(s). India agreed to bind for Singapore the FDI limit of 74 per cent for internet and infrastructure services. On the remaining telecommunication services, except in the case of value added services which continued to be at 51 per cent, the FDI level would be at 49 per cent.

In the Indo-Singapore CECA there is an Annex on Telecommunications which has taken elements from the GATS Annex on Telecommunications and the Reference Paper. India has not subscribed fully to the Reference Paper in the WTO and it is reflected in the CECA. For instance, India has not subscribed to cost-based interconnections both in the CECA and the revised offers. Although commitments under CECA are less than the applicable regime, they are more liberal than India's revised offer.[23]

[22] Juridical persons means any legal entity duly constituted or otherwise organized under applicable law, whether for profit or otherwise, and whether privately owned or government owned, including corporation, trust, partnership, joint venture, sole proprietorship or association, cooperative or society.

[23] For instance, the benefits given to the 17 Singaporean companies are not applicable to other WTO Members.

An analysis of the four US bilateral agreements–US-Australia, US-Singapore, US-Chile and US-Morocco, gives an indication of what the US has been asking from its trading partners in FTA negotiations. An appropriate mix of the US FTAs with developed and developing countries is selected for this study to understand how the extent of bilateral liberalization varies with the levels of development of US trading partners. It is important to note that unlike the GATS, the US FTAs are based on a negative list approach, that is, all sectors and all modes of supply are covered unless otherwise specified. Telecommunication is a key service sector which is included as a separate section in all the four FTAs.

Liberalization undertaken in the telecommunication sector under the four US FTAs is much deeper and wider than the market access commitments under the GATS and the regulatory disciplines covered by the Reference Paper. However, the extent of liberalization varies across different FTAs, with US-Singapore having the most extensive commitments. In fact, the commitments made by Singapore in the US-Singapore FTA are much deeper than the commitments made by it in the Indo-Singapore CECA, although CECA was signed after the US-Singapore FTA. The liberalization commitments under the four FTAs, which are beyond the scope of the market access commitments under the GATS and the Reference Paper are shown in Table D2 of Appendix D. This table discusses the current Indian telecommunication policy regime. It also gives an indication to how far India's current regime is consistent with what the US requires from its trading partners.

A comparison of India's revised offer in the Doha Round and the applicable regime shows that the applicable regime is far more liberalized than the revised offer. For instance, in basic telecommunication FDI up to a maximum of 49 per cent through joint venture is allowed in the revised offer while the unilateral regime permits FDI up to 74 per cent. As shown in Table D3 of Appendix D, the wedge between unilateral liberalization and WTO commitments has widened over the past few years as the country underwent significant liberalization.[24] In its revised offer, India did not make full commitments to the Reference Paper even in areas where the current regime is compliant with the Reference Paper. For instance, India has not committed to:

a.) not engaging in anti-competitive cross-subsidization;

b.) non-discriminatory terms and conditions and rates of interconnection;

c.) providing interconnection in a timely fashion on terms and conditions and cost-oriented rates that are transparent, reasonable and sufficiently unbundled.

However, in its regulation on interconnection, TRAI has enforced all the conditions relating to it as specified in the Reference Paper. Also, intense competition coupled with cost-based IUC (Interconnection Usage Charge) regime ensures competitive behaviour by operators.

[24] See Kathuria (2004) for details.

The reluctance on the part of India to multilaterally bind the unilateral liberalization provides scope for the US to bilaterally negotiate a greater market access. Since the US has been pushing for significant liberalization in this sector in its FTAs and in the GATS, it is likely that India will receive pressure to undertake substantial liberalization if the two countries enter into an FTA.

5. Indo-US FTA: Implications for India

This section discusses the barriers faced by the US and Indian companies in each others' market, the issues that the US is likely to raise during the FTA negotiations and India's possible strategies and options.

5.1 Barriers faced by the US companies in India

During the survey, the US companies (listed in Table 2.4.1) were asked about the barriers that they face in India and what they have presented to the United States Trade Representatives (USTR). This gives an indication of the issues that the US is likely to raise during the proposed FTA negotiations. Two other foreign telecommunication companies–British Telecom (UK) and Teleglobe (Canada)—were also interviewed to understand whether the barriers/problems faced by the US players were specific to the US companies or not. Since the US companies are operating in various areas such as manufacturing, R&D, software and provision of telecommunication services some problems faced by the companies are unique to their areas of operations. There are some problems which are common to investors in general and not specific to the telecommunication sector. These include lack of proper ancillary infrastructure, such as power. This is a domestic reform issue and cannot be raised in a bilateral negotiation.

Survey participants pointed out that it is difficult to set up infrastructure facilities in India since the process is cumbersome, time-consuming and bureaucratic. For instance, for laying cables one has to take multiple clearances from the local/municipal and state authorities and this causes delays. Telecommunication equipment manufacturers complained about the high rates of taxes and duties which raises the cost of production and thereby reduces the competitiveness of India as a manufacturing destination *vis-a-vis* other countries such as China. Taxes account for 30 per cent of the cost of operation of telecommunication service providers. Almost all US companies have referred to the weak data protection regime. India does not have a specific data protection law which makes IPR (Intellectual Property Right) enforcement difficult.[25] The US has a comprehensive data protection law and it is likely that it will raise this issue during the FTA negotiations.

The US companies have raised concerns about the lack of regulatory transparency, neutrality and fairness of the government policy. They have pointed out that although the sector has been privatized, the government holds 26 per cent stake in the

[25] Although India does not have a specific data protection law, there are proxy laws and other indirect safeguards. Some of these proxy laws are Sections 65, 66 and 72 of the Indian IT Act, the Indian Contract Act, Sections 406 and 420 of the Indian Penal Code, and the Indian Copyright Act (NASSCOM, Strategic Review, 2005).

international carrier Videsh Sanchar Nigam Limited (VSNL), 56 per cent stake in Mahanagar Telephone Nigam Limited (MTNL) which primarily serves the Delhi and Mumbai metropolitan areas and 100 per cent stake in Bharat Sanchar Nigam Limited (BSNL) which provides domestic service to the rest of the country. Even though MTNL and BSNL have been corporatized, there has been no indication from the government regarding the privatization of these two entities. The issue of privatization has been raised from time to time and the proposal faced severe opposition. In fact, talks of merging the two entities are in process. Not only the government has a strong interest in the financial health of these companies, the companies themselves often impose various barriers. For instance, the US companies have complained about the reluctance of privately-owned VSNL to provide non-discriminatory access to submarine cable and landing station in India.[26] This has resulted in an artificial shortage of submarine cable capacity, driving up the price. Although in mid-2004 VSNL reached an agreement with Flag Telecom, allowing the latter to sell international bandwidth through a VSNL landing station, the overall capacity constraints and high prices still persist due to the absence of a clear regulation on pricing and provisioning. US companies pointed out that the restriction on access is a violation of the Annex on Telecommunications. During the bilateral negotiations the US will request India to ensure that availability of facilities to other suppliers is on a reasonable and non-discriminatory basis.

Both the US and other foreign companies have pointed out that the dichotomy between the role of the TRAI and the DoT leads to lack of clarity and uncertainty in the regulatory policies. As a regulator, TRAI makes recommendations but does not have the power to implement those recommendations or to issue licenses. This role is performed by the DoT. Despite TRAI's recommendation to allow domestic Very Small Aperture Terminal (VSAT) operators to secure bandwidth from international satellites since they offer better quality bandwidth at lower rates as compared to the Department of Space (which has a huge capacity crunch and low quality capacity at higher rates), DoT has not implemented it. The recent decision by the DoT to prohibit existing ISPs from providing Virtual Private Network (VPN) services under the licenses issued to them and requiring them to obtain amended/new licenses by paying additional license fee of Rs10 crores and by giving financial bank guarantees has been cited as an incidence of regulatory uncertainty.

Telecommunication companies have pointed out that the decision to hike FDI limit from 49 per cent to 74 per cent came (3 November 2005) after three years of uncertainty and that too with a series of conditions, such as 74 per cent foreign investment to be made directly or indirectly in the operating company, but the remaining 26 per cent to be owned by resident Indian companies (within the ceiling of 74 per cent on a half-yearly basis); majority directors on the Board (including the chairman, managing director and CEO) to be resident Indian citizens enforced through license agreement; all investments to be subject to Indian laws; the 74 per cent to constitute the total composite foreign holding, such as investments by foreign institutional investors (FII), non-resident Indians (NRIs), foreign currency convertible bonds (FCCBs), American depositary receipts) (ADRs), global depository receipts (GDRs), convertible

[26] This has also been raised in USTR 2006.

preference shares; FDI up to 49 per cent will be through the automatic route, approval of Foreign Investment Promotion Board will be required for FDI in Licensee company/Indian promoters/investment companies including their holding companies if it has a bearing on the overall ceiling of 74 per cent; among others. Foreign investors expressed strong reservations against such requirements. They pointed out that previously companies were allowed to invest up to 74 per cent through the holding company route. The FDI relaxation has not helped much since the companies now have to abide by these restrictions. In fact, since the announcement of the FDI increase only two companies– AT&T and Hutchison have made application for FDI beyond 49 per cent. Out of these AT&T has been granted national and international long distance licenses.

Foreign companies also raised concerns about some security restrictions (relating to remote access, transfer of network information outside India and international transit routing of Indian traffic) accompanying the FDI guidelines. Some of these companies (such as British Telecom) have pointed out that these restrictions are without precedent in even terror-prone countries such as the US, UK, Indonesia and Israel. Even domestic companies such as Tatas and Bharti have opposed the restriction on foreign CEOs and senior management in telecommunications.

As of now, reselling in the form of franchisees is permitted only in the Unified Access Services License (UASL) and the Basic Service License but is not allowed in the National Long Distance Operators (NLDO)/International Long Distance Operators (ILDO)/Cellular Mobile license. The US companies have pointed out that resale is a prerequisite for a competitive market. Non-facilities-based competition, like reselling, provides an entry vehicle for new entrants that may lack the required capital to build up their own facilities. Reselling also helps in increasing the usage of the existing network through innovative means, thereby benefiting facility-based providers and reducing prices. A reduction in prices ultimately leads to an increase in teledensity. Moreover, experiences in long distance markets of developed countries, such as the US, have indicated that resale can lead to large gains for the consumers. A recent study of the Indian telecommunication sector[27] states that although, in the initial period, countries focus on the development of infrastructure, with rapid growth of the telecommunication sector, as in the case of India, resale can be allowed. Since the NTP 99 considers the possibility of resale, the study points that India can allow resale of certain facilities such as private leased circuits. The study, however, points that India may not gain from allowing resale of voice telephony and, if at all a commitment is made, it should be phased in to follow the implementation of the unified licensing regime.

During the survey all foreign companies complained about the relatively high license fee to enter the international long distance and national long distance services in India. The US companies argued that license fee is nominal in the US and many Indian companies have opted for International Common Carrier 214 License in the US. They further argued that the complex licensing process results in requirements for multiple approvals/clearances and delays in implementation. The relatively high fee coupled with taxes, high spectrum charges, etc., adds to the cost and reduces the viability of carrying

[27] Kathuria (2004).

out business in India. It is important to note that after our survey, in November 2005, the government reduced the entry fee for new domestic long distance (DLD) licenses from US$22.22 million to US$55,555. The annual license fee for DLD licenses have been reduced from 15 per cent to 6 per cent of adjusted gross revenue (AGR) from 1 January 2006. The entry fee for international long distance (ILD) has been reduced from US$5.55 million to US$55,555. The annual license fee for ILD licenses have been reduced from 15 per cent to 6 per cent of AGR, effective from 1 January 2006. Hence, the issue of license fee has been addressed to a large extent.

All foreign players raised the issue of unified licensing. They were of the opinion that the unified licensing regime should be implemented in totality. In this context, TRAI came up with recommendations to envisage a two-stage process to introduce a unified licensing regime on 27 October 2003. The first phase, which includes a Unified Access Service License (UASL) at circle level, had been implemented from November 2003.[28] In this phase, WLL, basic and GSM cellular were brought under a single license regime. TRAI then came up with recommendations (for second phase) for all telecom services on 13 January 2005.[29] The recommendations also proposed reduction in licensing burdens for the operators in order to facilitate growth, introduction of niche operators in telecom facility-wise less-developed areas, introduction of internet telephony, etc. It was expected that the second phase of unified licensing regime, will simplify the procedure of licensing, encourage the free growth of new applications and services leveraging on technological developments, ensure flexibility and efficient utilisation of resources, reduce the entry and license fee to a nominal level and ease the entry requirements. It is important to note that before the second phase of recommendations, TRAI was entrusted with additional responsibilities of regulating the broadcast and cable services and hence this phase of recommendations also covered broadcasting services. Since the recommendations, the government has already taken steps to lower entry fee and annual license fee for NLD and ILD services. Access service providers have been permitted to provide internet telephony, internet services and broadband services (including triple play, that is, voice, video and data). NLD service providers are now permitted to access the subscribers directly only for provision of leased circuits. Similarly ILD service providers can access the subscribers directly only for provision of international leased circuits. This enables easier implementation of the unified licensing regime.

All foreign companies have raised a significant voice against the Access Deficit Charges (ADC)[30] Although this regime was implemented by TRAI in connection with its Telecommunication Interconnection Usage Charge (IUC) Regulation in 2003, it is not an interconnection charge and its purpose is to subsidize socially desirable services. The government has an obligation to provide telecommunication access to certain segments of the population at a low cost. BSNL, which is providing this universal service, has reached a situation whereby its revenues are not meeting the cost of providing such services. After taking into account the revenue and other benefits received by the company, such

[28] TRAI (November 2003).
[29] TRAI (August 2005).
[30] ADC is the amount payable by the service provider at the caller's end to the service provider at the receiving end for accessing services rendered by the latter in long distance telephony.

as subsidies from the Universal Service Obligation fund, tax benefit, etc., the remaining cost is compensated by the ADC. BSNL is the only company in India which is eligible for the subsidy collected through the ADC. Foreign companies have pointed out that although TRAI has significantly reduced the ADC they are still very high. They complained that BSNL has been using the amount accrued from the ADC to offer extremely aggressive tariffs which are detrimental to its competitors. (BSNL received Rs 4700 crore as ADC in 2003.) They also argued that all companies should be given an option to provide universal service obligations, and those who are willing should be subsidized. Moreover, with technological developments, there are better and cheaper technologies at the disposal of foreign players which can be used to meet India's social service obligations. The differences in ADC charges between domestic long distance and international long distance have resulted in a large grey market. A service provider has been charged with the offence of converting the international long distance calls into domestic long distance calls. This raises questions on the ability to monitor the regime and its transparency. The US companies have further argued that the ADC regime fails to comply with India's WTO commitment in the Reference Paper to administer universal service obligations in a transparent and non-discriminatory manner. A reduction in ADC would reduce call charges, which would enhance the competitiveness of services, such as ITES, in which India is trying to increase its international share. TRAI and the government have realized this and it is likely that the ADC will be gradually phased out. TRAI has indicated that the removal of ADC will take another three to five years. TRAI has also pointed out that the ADC are likely to be reduced further before being phased out.[31]

As of now, India has not made commitments in Mode 1 for basic telecommunication under both market access and national treatment. Mode 1 is an important mode of trade for telecommunication services and US companies have raised this as a major trade barrier.

5.2 Barriers faced by Indian Companies in the US

A few Indian companies have entered the US market for long distance exchange of voice and data. These companies were asked about the barriers they face in the US market, the steps taken by them to circumvent these barriers and what India should ask from the US if there is an FTA. Respondents pointed out that the US market is more liberalized than the Indian telecommunication market and they did not face any major entry barriers. License fee is low and companies did not have any problems in getting the International Common Carrier 214 License. However, the cost of setting up network facilities in the US is very high, which makes it difficult for Indian companies to establish a presence since they are not very strong financially.

There are a few barriers to commercial presence in the US. Communication is a highly regulated sector and is subject to discretionary government actions. Under Section 5021 of the 1988 Trade Act, also known as the *Exon-Florio* Amendment to the Defence

[31] 'TRAI seeks cut in international, domestic leased lines', 8 February, 2005, http://www.domain-b.com/organisation/trai/20050208_leased_lines.htm

Production Act, FDI in the US is subject to a review by the Committee on Foreign Investment in the US (CFIUS). The purpose of the review is to determine whether any merger, acquisition or takeover by a foreign entity 'threatens to impair' the national security of the US. There is considerable amount of time and legal costs involved in the inspection by the CFIUS. The *Exon-Florio* Amendment does not clearly define national security and since the 11 September 2001 terrorist attacks, the review of the CFIUS have expanded beyond defence to cover telecommunication and technology.[32] After 11 September 2001, the US law enforcement agencies have imposed strict corporate governance requirements on companies seeking FCC approval for foreign takeover of a US communications firm. Moreover, if the US President decides that any such transactions threaten national security, he can take action to suspend or prohibit these transactions. In such cases there is no scope for judicial review or compensation.

5.3 Indo-US FTA: Implications for India

Telecommunications would be a priority sector for negotiations if India and the US decide to enter into an FTA. Table 2.3.2 shows that the share of the US in actual investment inflow in the Indian telecommunication sector is less than 5 per cent. Survey participants pointed out that the FTA should facilitate the inflow of investment from the US. They emphasised that collaboration with the US companies would enhance the inflow of technology, skills and best management practices. Apart from services, there is scope for collaboration in R&D related to telecommunications and in product manufacturing. Indian and the US companies can jointly undertake projects in third country markets. The two countries can sign Mutual Recognition Agreements (MRAs) for telecommunications product certification as this would also be mutually beneficial. Since increase in telecommunication connectivity is vital for enhancing trade in knowledge-based services, the FTA negotiations should focus on facilitating increase in connectivity, improving service quality and reducing prices of telecommunication services. The US investment in telecommunication infrastructure, such as broadband, would be beneficial for India.

In its bilateral agreements, the US expects its trading partners to undertake significant commitments in telecommunication services. There are very few entry barriers in the US and most of them cannot be raised in an FTA negotiation. India's commitments in the Indo-Singapore CECA are much below what the US expects from its bilateral trading partners. Hence, India would receive significant pressure to liberalize this sector if the two countries enter into an FTA. Also, since India's commitments in the WTO are much below the level of unilateral liberalization, there is immense scope for the US to negotiate greater market access bilaterally. Since India's export interest in this sector are limited, India may explore the possibility of binding the unilateral liberalization in return for greater market access in areas/modes of export interest such as ITES and Mode 4.

[32] For details, see Ganguli (2005) and European Commission (2004).

The telecommunication sector in India is still evolving and is undergoing regulatory changes. Table D2 of Appendix D shows that while the current Indian regime can meet some of the requests made by the US in its other FTAs, for others, the domestic regime needs to be examined and, if required, reformed in the line of technological developments. The US expects its trading partners to have a mature telecommunication market. India needs to carefully plan out the reform process before entering into an FTA with the US. It is also important to note that, to become globally competitive, India needs to initiate reforms in this sector in line with technological development independent of any bilateral agreement.

The US companies have raised concerns about the telecommunication policy in India and the transparency of domestic regulations. The US has been pushing for transparency in domestic regulation in the Doha Round and is likely to raise this issue during the FTA negotiations. Specifically, the US would like India to have a technology-neutral transparent policy that allows private and public telecommunication companies to compete fairly. The US companies are happy with the 74 per cent FDI provided this is through the automatic route and is accompanied by the removal of two conditions, namely, that senior management should be resident Indian nationals and investors rights should be in proportion to shareholding levels. These are likely to be raised during the FTA negotiations. Within India, there is an on-going debate on the security issues and strategic control resting with Indian management. As discussed earlier, due to various restrictions imposed by the government, very few companies have applied for increasing the FDI regime from 49 per cent to 74 per cent. At present, the government is reviewing the FDI policy.

The US is likely to push for full commitments in Mode 1 for basic telecommunication services. India has not taken a commitment under this mode in the WTO on the grounds that physical presence of the service supplier in India is a necessary condition for providing services and that it would be difficult for the regulator to control services provided remotely. India will be under continuous pressure from its major trading partners such as the US and EU to offer full commitments in Mode 1 both multilaterally and if it enters into an FTA. Prior to making any commitments, India needs to have in place suitable regulatory safeguards for cross-border provision of services. Also, the government should re-examine the ADC regime[33] before making any commitments, especially under national treatment.

Both the Indian and the US governments have treated telecommunication as a sensitive sector due to national security issues. While the US has explicitly introduced the *Exon-Florio* Amendment, in India, any reforms in this sector are undertaken only after due consideration to security issues. During the FTA both countries need to discuss how best they can address the security issues and enter into collaborative arrangements so that such issues are not impediments to investment.

[33] ADC is different for domestic long distance and international long distance. It is also different for incoming and outgoing calls for international long distance. This makes it difficult to undertake a national treatment commitment.

A close look at the four US FTAs shows that the US made minor changes in the definition of different terms in the various FTAs, which has significant legal implications. Indian negotiators should take this into account.

6. Reforms

This section discusses some of the reform measures which if implemented will not only make the telecommunication sector globally competitive but will also enable the country to gain from the liberalization undertaken bilaterally and in the WTO. There is significant need for investment in the Indian telecommunication sector and much of this investment is expected to come from the private and foreign investors. The government, on its part, can initiate appropriate regulatory reforms to make the sector investment friendly.

One of the major barriers raised during the survey was the lack of clarity and uncertainty in regulatory policies due to the dichotomy in the role played by TRAI and DoT. TRAI can only make recommendation but DoT has the power to implement them. Some of TRAI's recommendations have not been implemented by the DoT. Unlike the FCC, TRAI does not have licensing authority. TRAI also does not have the mandate to redress consumer complaints which are handled by consumer courts. However, consumer courts have heavy backlogs and are not equipped with technological issues related to the sector which have a bearing on the services provided. There is an urgent need to entrust the regulator with more powers to ensure a competitive market. It is important to note that the existence of an independent and effective regulatory body was one of the major objectives of India's Tenth Five-Year Plan. The Plan stated that independence of the regulator depends to a large extent on the funding mechanism, the constitution of the regulatory body and the principles guiding its functioning. It also stated that against the present system of funding from the budget support, a mechanism for making the regulatory body self-financing needs to be put in place. One such option could be the provision of necessary funds out of levies/fees collected from telecom operators. TRAI should be made financially independent and given more power. In fact, the licensing power should be with the independent regulator.

Survey participants pointed out that although in the Budget 2004-05 the FDI limit on basic telecommunication was raised from 49 to 74 per cent, the actual decision was implemented much later and was subject to several restrictive conditions. The required foreign investment is not coming into the country due to these conditions. The government should re-examine the need for certain restrictive conditions such as restrictions related to remote access, transfer of network information outside India and the senior management should be resident Indian citizens. While it is necessary to review foreign acquisition for security reasons and countries such as the US are doing so, it is important to ensure that the process is not so cumbersome that it deters investment.

Survey participants raised the issue of unified licensing. Some of the recommendations made by TRAI on the second phase of unified licensing regime have already been implemented. It is important to implement the remaining so that the unified licensing regime is fully implemented. With rapid technological development NTP 99 is

becoming outdated. The DoT is in the process of drafting NTP 2005. This policy should be announced at the earliest. The policy should address issues such as number portability and dialing parity which are characteristics of mature telecommunication market.

Resale plays an important role in the development of the telecommunication sector. Resale helps in promoting competition and better quality of service. It provides incentives to new entrants to enter the market with least amount of investment. Also, reselling is beneficial for users/customers since it provides them with a large range of services. In many developed countries, facilities-based competition and resale competition coexist to the benefit of carriers and customers. However, in India resale is not advocated by TRAI since it may affect the development of telecommunication infrastructure. There is an urgent need to have a substantial analysis of the implications of resale and identify areas where resale can be permitted and its timeframe.

In cases where licenses are to be awarded for the allocation of scarce resources (such as spectrum), it is necessary that the procedures are transparent and non-discriminatory. In fact, the spectrum policy should be made a subpart of the NTP 2005. It should allow for a review of spectrum planning process taking into account new digital broadcasting technologies. Moreover, spectrum availability for rural operators should ensure a single-window clearance, in a time-bound manner. Also, new technologies, like Radio Frequency Identification (RFID), would require a more open approach to spectrum management. A transparent licensing framework would be a positive step in encouraging more foreign participation in the development of India's telecommunications sector.

Given the rapidly growing demand for international bandwidth in India, there is a need to provide competitive operators access to submarine cable capacity on a long-term basis. As of now, VSNL does not freely allow competitors (whose cable terminates at VSNL's landing station) to activate and market their capacity in India, as a result of which it keeps its prices (and market share) high. In the light of the current scenario, there is an immediate need to develop clear rules on pricing and provisioning of submarine cable capacity.

Laws governing the telecommunication sector are antiquated. With technological development there is a need to replace the existing laws, such as the Indian Telegraph Act 1885, the Indian Wireless Telegraphy Act 1933 and the Telegraph Wires (Unlawful Possession) Act 1950, with more forward looking legislation. Also, with the development of technology, the differences between the telecommunication, the audio-visual and the IT sectors are getting blurred. There is now a tendency for service providers to bundle different services, thus creating difficulties in regulating them as separate entities. On 31 August 2001, the Government of India introduced a Communication Convergence Bill 2001 to promote and develop this sector in an environment of increasing convergence of technologies, services and service providers. The bill envisages the creation of an independent body–the Communications Commission of India (CCI)–for facilitating the convergence of the broadcasting, telecommunication and IT sectors. This Bill lapsed due to the dissolution of the 13th Lok Sabha. More recently, the Ministry of Information and Broadcasting has proposed a draft Broadcasting Services Regulation Bill (2006) which aims to provide the framework for regulating the broadcasting sector–both carriage and

content. It also proposes to establish an independent authority–The Broadcasting Regulatory Authority of India—for regulating and facilitating the development of broadcasting services in India. With technological development it would be difficult, if not impossible, to have separate regulators for the telecommunication and broadcasting sector and the government should take this into consideration before coming up with piecemeal regulations. The best option would be to have a single regulator as was proposed in the Communication Convergence Bill 2001. As a second best option there can be two separate regulators–one for carriage and another for content. TRAI has also pointed out that internationally there is a trend towards adopting a converged regulatory framework for carriage.[34] The licensing regime should recognize convergence and be technology neutral. There is need for inter-ministerial coordination and consultancy regarding the regulation of telecommunication and broadcasting services as they are currently under different ministries.

Subsidization of incumbent monopoly through the ADC, which distorts the type of service that operators want to provide, has been widely criticized. It is important to note that developed countries such as Australia, Canada and France, with lesser compulsions of providing low rentals and tariffs for unviable services, have also implemented schemes to recover the access deficit. However, in most of these countries, the funding of access deficit has been merged with the Universal Service Obligation (USO) programme.[35] In India too the aim of the TRAI is to merge the funding of access deficit with the USO. Although ADC is declining, this transition should take place at a faster rate and should be removed by the NTP 2005. Though a clear and transparent mechanism for supporting rural service already exists through the USO Fund, it needs to be strengthened further.

Private/foreign players are not allowed to offer basic telecommunication services in rural areas which is done by BSNL. Various studies[36] have pointed out that both the telecommunication sector and the overall economy would benefit enormously from competition in all telecommunication markets. In fact, rural areas can become attractive business propositions under liberal entry and pricing policies. Private players should be allowed to enter and offer basic telecommunication services in rural areas. This is likely to increase the teledensity. Fair competition will bring down the prices.

India has already implemented a series of reforms in the telecommunications sector. The implementation of the above mentioned reforms will enable the sector to become more competitive and facilitate technological developments. Prior to a bilateral negotiation with the US, India needs to develop regulatory framework and policy guidelines on issues such as resale, allocation of spectrum and convergence of technology. This would enable the country to benefit from the negotiations.

[34] TRAI (March 20, 2006), *Recommendations on Issues relating to Broadcasting and Distribution of TV channels.*
[35] TRAI (August 2005).
[36] See Wellenius (1997) and European Bank for Reconstruction and Development, http://www.ebrd.com/country/sector/law/telecoms/about/main.htm

Conclusion

Modernization of telecommunication sector and competitive pricing is a prerequisite for sustaining economic growth and enhancing export potential, especially of knowledge-based sectors such as software and business process outsourcing. Since it is one of the main drivers of globalization, WTO negotiations and the recent FTAs have focused on liberalizing trade in telecommunication services.

This paper discusses the trade between India and the US in the telecommunication sector and the scope for liberalizing the sector in the context of a possible FTA between the two countries. The study found that India and the US have trade complementarities in this sector and this would be a priority sector in an FTA negotiation. Collaborations between companies from the two countries would be mutually beneficial. For India, particularly, it would lead to the inflow of finance, latest technical know-how and best management practices. Removal of barriers to trade in this sector would enhance trade in allied sectors such as software and BPO.

The ideal situation would be to unilaterally liberalize the telecommunication sector in line with technological development and bind the regime in the WTO. However, with the suspension of the Doha Round, the process of multilateral liberalization has slowed down and countries are focusing on bilateral and regional agreements. Both India and the US are seriously considering bilateral/regional agreements with like-minded trading partners.

The US is asking for significant liberalization in the telecommunication sector in its bilateral agreements, much beyond the scope of GATS and the Reference Paper on Basic Telecommunications. Although India has substantially liberalized the telecommunication sector, its multilateral commitments are far less than the unilateral liberalization. The wedge between multilateral commitments and the applicable regime indicates that the US can gain greater market access in a bilateral agreement. The study found that while some of the requests which the US is likely to make are consistent with the current policy regime in India, for others the policy regime may need to be reformed. It suggests certain reforms which would enhance the productivity, efficiency and global competitiveness of the sector and enable the country to gain from bilateral liberalization. India should clearly draw up the reform strategies and policy guidelines as it prepares for the FTA.

Telecommunication is a sensitive sector in India and the US due to national security issues. Under the FTA both countries need to discuss how best they can address the security issues and enter into collaborative arrangements so that such issues are not impediments to investment.

It is only recently that Indian companies are entering the US market. The FTA will not enhance market access for Indian companies significantly since there are no major entry barriers in the US. Liberalization commitments in this sector will have to be traded for greater market access in Modes 4 and 1 where the US has imposed significant barriers.

Appendix A

Table A1 : Telecommunications Service Classification in W /120 and United Nations Central Product Classification (UNCPC)

MTN.GNS/W/120	UNCPC*
C. Telecommunication services a. Voice telephone services 7521	7521 Public telephone services 75211 Public local telephone services - Switching and transmission services necessary to establish and maintain communications within a local calling area. This service is primarily designed (used) to establish voice communications, but may serve other applications such as text communication (facsimile or teletex) and is generally provided for a flat monthly fee independently of the number of calls made by the subscriber. Exclusions: Private line services and rental services of terminal equipment are classified in class 7522 (Business network services) and 7541 (Equipment rental services), respectively. 75212 Public long distance telephone services - Switching and transmission services necessary to establish and maintain communications between local calling areas. This service is primarily designed (used) to establish voice communications, but may serve other applications such as text communication (facsimile or teletex) and may be provided on a toll or flat rate basis. This service provides the customer with access to the supplier's and connecting carrier's entire telephone network or, in some instances, to a limited number of exchange areas (WATS service).
b. Packet-switched data transmission services c. Circuit-switched data transmission services 7523** d. Telex services 7523**	7523 Data and message transmission services 75231 Data network services - Network services necessary to transmit data between equipment using the same or different protocols. This service can be provided via a public or dedicated data network (i.e. via a network dedicated to the customer's use). 75232 Electronic message and information services - Network and related services (hardware and software) necessary to send and receive electronic messages (telegraph and telex/TWX services) and/or to access and manipulate information in databases (so-called value-added network services).
e. Telegraph services 7522	7522 (see below)
f. Facsimile services 7521** and 7529**	7521 (see above) 7529 Other telecommunications services 75291 Paging services - The summoning of a person to the telephone through the use of an electronic pager. This subclass includes tone, voice and digital display paging services. 75292 Teleconferencing services - Network and related services necessary to hold a one-way or two-way fully interactive video conference. 75299 Other telecommunications services n.e.c. - Telecommunications services, not elsewhere classified. This class includes mobile maritime and air-to-ground communications services.
g. Private leased circuit	7523 (see above) 7522 Business network services

services 7522** and 7523**	75221 Shared network services - Network services necessary to establish telephone communications between selected (point-to-point or multi-point) locations (terminals) via a public (shared) network. This type of service is primarily used to establish long distance voice communications but some versions can also accommodate facsimile and date transmission. It is provided on a pay-as-you-use basis at discount rates over regular long distance telephone charges. 75222 Dedicated network services - Network services necessary to establish telephone communications between selected (point-to-point or multi-point) locations (terminals) via private line(s). This type of service is primarily used to establish voice communications between distant PBX's (tie line), between a distant location and a PBX (off premises extension), between a PBX and a distant exchange area (foreign exchange) or between designated telephone sets, but may also accommodate data transmission. It is provided on a lease basis.
h. Electronic mail 7323** i. Voice mail 7323** j. On-line information and data base retrieval 7323** k. Electronic data interchange (EDI) 7323** l. Enhanced/value-added facsimile services, incl. Store and forward, store and retrieve 7323**	7523 (see above)
m. Code and protocol conversion	n.a.
n. On-line information and/or data processing (incl.transaction processing) 843**	843 Data processing services 8431 84310 Input preparation services - Data recording services such as key punching, optical scanning or other methods for data entry. 8432 84320 Data-processing and tabulation services - Services such as data processing and tabulation services, computer calculating services, and rental services of computer time. 8433 84330 Time-sharing services - This seems to be the same type of services as 84320. Computer time is bought; if it is bought from the customer's premises, telecommunications services are also bought. Data processing or tabulation services may also be bought from a service bureau. In both cases the services might be time sharing processed. Thus, there is no clear distinction between 84320 and 84330.
o. other	n.a.

Source: WTO (8 December 1998), Telecommunication Background Note, Annex, Figure A1, Page 16, S/C/W/74.

Note: * United Nations Provisional Central Product Classification, Statistical Papers, Series M, No. 77, 1991.

** Indicates that the service specified constitutes only a part of the total range of activities covered by the CPC concordance (e.g. voice mail is only a component of CPC item 7523).

Table A2 : Comparison of GATS and US FTAs: Definition of Telecommunication.

	GATS	US-Australia FTA	US-Singapore FTA	US-Morocco FTA	US-Chile FTA
Telecommunications	The transmission and reception of signals by any electromagnetic means	Same as in GATS	The transmission and reception of signals by any electromagnetic means including by photonic means	Same as in US -Singapore FTA	Same as US - Singapore FTA
Public telecommunications transport service	Any telecommunications transport service required, explicitly or in effect, by a Member to be offered to the public generally. Such services may include, *inter alia*, telegraph, telephone, telex, and data transmission typically involving the real-time transmission of customer-supplied information between two or more points without any end-to-end change in the form or content of the customer's information.	Any telecommunications service **(**which a Party may define to include certain facilities used to deliver these telecommunications services) that a Party requires, explicitly or in effect, to be offered to the public generally. Such services may include inter alia, telephone and data transmission typically involving customer-supplied information between two or more points without any end-to-end change in the form or content of the customer's information;	Any telecommunications service that a Party requires, explicitly or in effect, to be offered to the public generally. Such services may include inter alia, telephone and data transmission typically involving customer-supplied information between two or more points without any end-to-end change in the form or content of the customer's information	Any telecommunications service that a Party requires, explicitly or in effect, to be offered to the public generally. Such services may include inter alia, telephone and data transmission typically involving customer-supplied information between two or more points without any end-to-end change in the form or content of the customer's information. Public telecommunication services in the territory of the US do not include value-added services.	Same as in US - Morocco FTA
Public telecommunications transport network	The public telecommunications infrastructure which permits telecommunications between and among defined network termination points.	Not there	Telecommunications infrastructure which a Party requires to provide public telecommunications services between defined network termination points	Not there	Same as in US - Singapore FTA.

Source: Compiled by the authors

Appendix B

Table B1 : Liberalization and Reforms since 1990s

1991-92	• On 24th July 1991, Government announced the New Economic Policy. • Telecom Manufacturing Equipment license was delicensed in 1991. • Automatic foreign collaboration was permitted with 51 per cent equity by the collaborator.
1992-93	• Value added services were opened for private and foreign players on franchise or license basis. These included cellular mobile phones, radio paging, electronic mail, voice mail, audiotex services, videotex services, data services using VSAT's, and video conferencing.
1994-95	• The Government announced a National Telecom Policy 1994 in September 1994. It opened basic telecom services to private participation including foreign investments. • Foreign equity participation up to 49 per cent was allowed in basic telecom services, radio paging and cellular mobile. For value added services the foreign equity cap was fixed at 51 per cent. • Eight cellular licensees for four metros were finalized.
1996-97	• Telecom Regulatory Authority of India (TRAI) was set up as an autonomous body to separate the regulatory functions from policy formulations and operational functions. • Coverage of the term "infrastructure" expanded to include telecom to enable the sector to avail of fiscal incentives such as tax holiday and concessional duties. • An agreement between Department of Telecommunication (DoT) and financial institutions to facilitate funding of cellular and basic telecom projects. • External Commercial Borrowing (ECB) limits on telecom projects made flexible with an increased share from 35 per cent to 50 per cent of total project cost. • Internet Policy was finalized.
1998-99	• FDI up to 49 per cent of total equity, subject to license, permitted in companies providing Global Mobile Personal Communication (GMPC) by satellite services.

1999-00	• National Telecom Policy 1999 was announced which allowed multiple fixed services operators and opened long distance services to private operators. • TRAI reconstituted: clear distinction was made between the recommendatory and regulatory functions of the Authority. • DOT/MTNL was permitted to start cellular mobile telephone service. • To separate service providing functions from policy and licensing functions, Department of Telecom Services was set up. • A package for migration from fixed license fee to revenue sharing offered to existing cellular and basic service providers. • First phase of re-balancing of tariff structure started. STD and ISD charges were reduced by 23 per cent on an average. • Voice and data segment was opened to full competition and foreign ownership increased to 100 per cent from 49 per cent previously.
2000-01	• TRAI Act was amended. The Amendment clarified and strengthened the recommendatory power of TRAI, especially with respect to the need and timing of introduction of new services provider, and in terms of licenses to a services provider. • Department of Telecom Services and Department of Telecom operations corporatized by creating Bharat Sanchar Nigam Limited. • Domestic long distance services opened up without any restriction on the number of operators. • Second phase of tariff rationalization started with further reductions in the long distance STD rates by an average of 13 per cent for different distance slabs and ISD rates by 17 per cent. • Internet Service Providers were given approval for setting up of International Gateways for Internet using satellite as a medium in March 2000. • In August 2000, private players were allowed to set up international gateways via the submarine cable route. • The termination of monopoly of VSNL in International Long Distance services was antedated to March 31, 2002 from March 31, 2004.
2001-02	• Communication Convergence Bill, 2001 was introduced in August 2001. The bill aimed at promoting and facilitating the carriage and content of communication in an orderly manner and develop the required infrastructure. The bill envisages setting up of a regulatory and licensing authority known as "Communication Commission of India" and making TRAI and TDSAT more effective regulatory bodies. • Competition was introduced in all services segments. TRAI recommended opening up of market to full competition and introduction of new services in the telecom sector. The licensing terms and conditions for Cellular Mobile were simplified to encourage entry for operators in areas without effective competition. • Usage of Voice over Internet Protocol permitted for international telephony service. • The five-year tax holiday and 30 per cent deduction for the next five years available to the telecommunication sector till 31st March 2000 was reintroduced for the units commencing their operations on or before 31st

	March 2003. These concessions were also extended to internet services providers and broadband networks. • Thirteen ISP's were given clearance for commissioning of international gateways for Internet using satellite medium for 29 gateways. • License conditions for Global Mobile Personal Communications by Satellite finalized in November 2001. • National Long Distance Service was opened up for unrestricted entry with the announcement of guidelines for licensing NLD operators. Four companies were issued Letter of Intent (LOI) for National Long Distance Service of which three licenses have been signed. • The basic services were also opened up for competition. 33 Basic Service licenses (31 private and one each to MTNL and BSNL) were issued up to 31st December 2001. • Four cellular operators, one each in four metros and thirteen were permitted with 17 fresh licenses issued to private companies in September/October 2001. The cell phone providers were given freedom to provide, within their area of operation, all types of mobile services equipment, including circuit and/or package switches that meet the relevant International Telecommunication Union (ITU)/ Telecom Engineering Centre (TEC) standards. • Wireless in Local Loop (WLL) was introduced for providing telephone connection in urban, semi-urban and rural areas. • Disinvestment of PSU's in the telecom sector was also undertaken during the year. In February 2002, the disinvestment of VSNL was completed by bringing down the government equity to 26 per cent and the management of the company was transferred to Tata Group, a strategic partner. During the year, HTL was also disinvested. • Government allowed CDMA technology to enter the Indian market. • Reliance, MTNL and Tata were issued licenses to provide the CDMA based services in the country. • TRAI recommended deregulating regulatory intervention in cellular tariffs, which meant that operators need no longer have prior approval of the regulator for implementing tariff plans except under certain conditions.
2002-03	• International long distance business opened for unrestricted entry. • Telephony on internet permitted in April 2002. • TRAI finalized the System of Accounting Separation (SAS) providing detailed accounting and financial system to be maintained by telecom service providers.
2003-04	• Unified Access Service Licenses regime for basic and cellular services was introduced in October 2003. This regime enabled services providers to offer fixed and mobile services under one license. Consequently 27 licenses out of 31 licenses converted to Unified Access Service Licenses. • Interconnection Usage Charge regime was introduced with the view of providing termination charge for cellular services and enable introduction of Calling Party Pays regime in voice telephony segment. • The Telecommunication Interconnection Usage Charges Regulation 2003 was introduced on 29th October 2003 which covered arrangements among service providers for payment of Interconnection Usage Charges for

	Telecommunication Services and covered Basic Service that includes WLL (M) services, Cellular Mobile Services, and Long Distance Services (STD/ ISD) throughout the territory of India • The Universal Service Obligation fund was introduced as a mechanism for transparent cross subsidization of universal access in telecom sector. The fund was to be collected through a 5 per cent levy on the adjusted gross revenue of all telecom operators. • Broadcasting notified as Telecommunication services under Section 2(i)(k) of TRAI Act.
2004-05	• Budget 2004-05 proposed to lift the ceiling from the existing 49 per cent to 74 per cent as an incentive to the cellular operators to fall in line with the new unified licensing norm. • 'Last Mile' linkages permitted in April 2004 within the local area for ISP's for establishing their own last mile to their customers. • Indoor use of low power equipments in 2.4 GHz band de-licensed from August 2004. • Broadband Policy announced on 14th October 2004. In this policy, broadband had been defined as an "always-on" data connection supporting interactive services including internet access with minimum download speed of 256 kbps per subscriber. • The Telecommunications (Broadcasting and Cable Services) Interconnection Regulation 2004 was introduced on 10th December 2004. • BSNL and MTNL launched broadband services on 14th January 2005. • TRAI announced the reduction of Access Deficit Charge (ADC) by 41 per cent on ISD calls and by 61 per cent on STD calls which were applicable from 1st February 2005
2005-2006	• Budget 2005-2006 cleared a hike in FDI ceiling to 74 per cent from the earlier limit of 49 per cent. 100 per cent FDI was permitted in the area of telecom equipment manufacturing and provision of IT enabled services. • Annual license fee for National Long Distance (NLD) as well as International Long Distance (ILD) licenses reduced to 6 per cent of Adjusted Gross Revenue (AGR) with effect from 1st January 2006. • BSNL and MTNL launched the 'One-India Plan' with effect from 1st March 2006 which enable the customers of BSNL and MTNL to call from one end of India to other at the cost of Rs. 1 per minute, any time of the day to phone. • TRAI fixed Ceiling Tariff for International Bandwidth, Ceiling Tariff for higher capacities reduced by about 70 per cent and for lower capacity by 35 per cent. • Regulation on Quality of Service of Basic and Cellular Mobile Telephone Services 2005 introduced on 1st July 2005. • BSNL announced 33 per cent reduction in call charges for all the countries for international calls. • Quality of Service (Code of Practice for Metering and Billing Accuracy) Regulation 2006 introduced on 21st March 2006.

Source: Complied by the authors from Economic Survey, Annual Reports of the Department of Telecommunications, Ministry of Communications and Technology and the Telecom Regulatory Authority of India (TRAI)–various issues.

Appendix C

GATS Framework

A unique feature of GATS is the classification of the services trade under four different modes:

a) *Cross-border Supply or Mode 1* refers to the delivery of services across countries such as the cross-country movement of passengers and freight, electronic delivery of information and data, etc.

b) *Consumption Abroad or Mode 2* refers to the physical movement of the consumer of the service to the location where the service is provided and consumed.

c) *Commercial Presence or Mode 3* refers to the establishment of foreign affiliates and subsidiaries of foreign service companies, joint ventures, partnerships, representative offices and branches. It is analogous to FDI in services.

d) *Presence of Natural Persons or Mode 4* refers to natural persons who are themselves service suppliers, as well as natural persons who are employees of service suppliers temporarily present in the other member's market to provide services.

In Modes 1 and 2 the service supplier is not present within the territory of the member while in Modes 3 and 4 the service supplier is present within the territory of the member.

The GATS contains two sorts of provisions. The first are general obligations, some of which apply to all service sectors (for example, MFN (Most Favoured Nation), Transparency) and some only to scheduled specific commitments (for example, Article XI: Payments and Transfers). The second are specific commitments, which are negotiated undertakings particular to each GATS signatory.

Under the MFN Treatment (Article II) a Member is obliged to provide to another Member treatment which is no less favourable than that which it provides to any other country, whether a Member or not (that is, if a WTO Member country offers a certain privilege to any other country, whether it be a Member or not, it has to extend the same treatment to all WTO Member countries). However, GATS allowed member countries to undertake exemptions to this clause, in their initial commitments in the Uruguay Round, subject to review.

The clause on Transparency (Article III) requires each Member country to publish all measures of general applications which pertain to or affect the operation of the Agreement. Countries are also required to publish international agreements pertaining to or affecting trade in services. In other words, the Council of Trade in Services will have to be informed—at least annually—of the introduction of any new laws or any changes to existing laws, regulations and administrative guidelines. WTO Member countries can make requests regarding specific information which the concerned country will have to provide promptly.

Article III requires Member countries to establish enquiry points to provide specific information to other Members.

The GATS aims to progressively liberalize services trade under the four modes of service supply. For each mode, a country can impose two types of barriers—market access barriers and/or national treatment barriers. A country is said to have imposed a market access barrier if it does not allow (or partially allow with some restrictions) foreign services or service providers to enter and operate in its market. A national treatment barrier exists when foreign services or service providers are allowed to enter the market but are treated less favourably than domestic service providers. During the successive rounds of negotiations, member countries negotiate and undertake commitments to liberalize market access and/or national treatment in specific sectors in what is known as sectoral schedule of commitments and across all or several sectors in the horizontal schedule of commitments. Both the sectoral and horizontal schedules have to be read together to understand the extent and nature of commitments undertaken in a particular sector. Thus, market access and national treatment are negotiated obligations. It is possible for countries not to grant full market access and deny national treatment by putting limitations and conditions on market access and conditions and qualifications on national treatment in particular sectors/sub-sectors. This is done by recording such limitations and qualifications in the commitment schedules under market access and national treatment columns. In its schedule a country is said to have made a 'full' commitment in a particular mode of supply of service if there are no restrictions on market access or national treatment. A country is said to have made a 'partial' commitment if the commitment is subject to some restrictions on market access and/or national treatment. If a country does not make any commitment to liberalize a particular sector or mode of supply and retains the right to impose restrictions in the future, then it is said to have kept the sector/mode 'unbound'. It is expected that successive rounds of negotiations will secure further liberalization by adding more sectors to a country's schedule and removing limitations and qualifications, if any, in sectors/sub-sectors already in the schedule. This is done mode-wise for each sector/sub-sector. It is also possible for countries to make commitments which are outside the scope of market access and national treatment as defined in the GATS. These are called Additional Commitments (Article XVIII). This provides scope for making commitments in such regulatory areas as licensing, qualifications and standards applicable to services.

The GATS covers all services except those supplied in the exercise of government authority. It follows a positive list approach which indicates that there is no a priori exclusion of any service sector and that countries are free to choose the service sectors/sub-sectors and modes within those sectors/sub-sectors for scheduling commitments.

Appe1ndix D

Table D 1: Comparison of the Reference Paper on Basic Telecommunications and India's Commitments to Reference Paper in the Uruguay Round and in the Revised Offer

TEXT OF THE REFERENCE PAPER	TEXT OF REFERENCE PAPER IN INDIA'S SCHEDULE OF SPECIFIC COMMITMENTS	TEXT OF REFERENCE PAPER IN INDIA'S REVISED OFFER
Scope The following are definitions and principles on the regulatory framework for the basic telecommunications services.	Scope The following are definitions and principles on the regulatory framework for the basic telecommunications services.	Scope The following are definitions and principles on the regulatory framework for the basic telecommunications services.
Definitions Users mean service consumers and service suppliers.	Definitions Users mean service consumers and service suppliers.	Definitions Users mean service consumers and service suppliers.
Essential facilities mean facilities of a public telecommunications transport network or service that (a) are exclusively or predominantly provided by a single or limited number of suppliers; and (b) cannot feasibly be economically or technically substituted in order to provide a service.	Essential facilities mean facilities of a public telecommunications transport network or service that (a) are exclusively or predominantly provided by a single or limited number of suppliers; and (b) cannot feasibly be economically or technically substituted in order to provide a service.	Essential facilities mean facilities of a public telecommunications transport network or service that (a) are exclusively or predominantly provided by a single or limited number of suppliers; and (b) cannot feasibly be economically or technically substituted in order to provide a service.

TEXT OF THE REFERENCE PAPER	TEXT OF REFERENCE PAPER IN INDIA'S SCHEDULE OF SPECIFIC COMMITMENTS	TEXT OF REFERENCE PAPER IN INDIA'S REVISED OFFER
A major supplier is a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of: (a) control over essential facilities; or (b) use of its position in the market.	A major supplier is a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of: (a) control over essential facilities; or (b) use of its position in the market.	A major supplier is a supplier which has the ability to materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of: (a) control over essential facilities; or (b) use of its position in the market.
1. Competitive safeguards 1.1 Prevention of anti-competitive practices in telecommunications Appropriate measures shall be maintained for the purpose of **preventing suppliers who, alone or together, are a major supplier from engaging** in or continuing anti-competitive practices. 1.2 Safeguards The anti-competitive practices referred to above shall include in particular: (a) **engaging in anti-competitive cross-subsidization**; (b) using information obtained from competitors with anti-competitive results; and (c) not making available to other services suppliers on a timely basis technical information about essential facilities and	1. Competitive safeguards Appropriate measures shall be maintained for the purpose of **preventing service suppliers from engaging** in or continuing in anti-competitive practices of the following type: **[Indian text omits (a) of general text]** (a) using information obtained from competitors with anti-competitive results; and (b) not making available to other services suppliers on a timely basis technical information about essential	1. Competitive safeguards Appropriate measures shall be maintained for the purpose of **preventing service suppliers from engaging** in or continuing in anti-competitive practices of the following type: **[Indian text omits (a) of general text]** (a) using information obtained from competitors with anti-competitive results; and (b) not making available to other services suppliers on a timely basis technical

TEXT OF THE REFERENCE PAPER	TEXT OF REFERENCE PAPER IN INDIA'S SCHEDULE OF SPECIFIC COMMITMENTS	TEXT OF REFERENCE PAPER IN INDIA'S REVISED OFFER
commercially relevant information which are necessary for them to provide services.	facilities and commercially relevant information which are necessary for them to provide services.	information about essential facilities and commercially relevant information which are necessary for them to provide services.
2. Interconnection 2.1 This section applies to linking with suppliers providing public telecommunications transport networks or services in order to allow the users of one supplier to communicate with users of another supplier and to access services provided by another supplier, where specific commitments are undertaken.	2. Interconnection Same as general text	2. Interconnection Same as general text
2.2 Interconnection to be ensured Interconnection with a major supplier will be ensured at **any technically feasible point in the network**. Such interconnection is provided: (a) **under non-discriminatory terms, conditions (including technical standards and specifications) and rates** and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers for its subsidiaries or other affiliates; (b) in a timely fashion, on terms, conditions (including technical standards and specifications) and cost-oriented rates that are transparent, reasonable, having regard to economic feasibility, and	2.2 Interconnection to be ensured Interconnection with a major supplier will be ensured at **any specified feasible point in the network as indicated in the license.** Such interconnection is provided: (a) of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates; **[Indian text omits (b) of the general text]**	2.2 Interconnection to be ensured Interconnection with a major supplier will be ensured at **any specified feasible point in the network as indicated in the license.** Such interconnection is provided: (a) of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates; **Indian text omits (b) of the general text]**

TEXT OF THE REFERENCE PAPER	TEXT OF REFERENCE PAPER IN INDIA'S SCHEDULE OF SPECIFIC COMMITMENTS	TEXT OF REFERENCE PAPER IN INDIA'S REVISED OFFER
sufficiently unbundled so that the supplier need not pay for network components or facilities that it does not require for the service to be provided; and (c) upon request, at points in addition to the network termination points offered to the majority **of users, subject to charges that reflect the cost of construction of necessary additional facilities**.	(b) upon request, at points in addition to the network termination points offered to the majority **of users as per license conditions, subject to mutually agreed charges**.	(b) upon request, at points in addition to the network termination points offered to the majority **of users as per license conditions, subject to mutually agreed charges**.
2.3 Public availability of the pr ocedures for interconnection negotiations The procedures applicable to a major supplier will be made publicly available.	2.3 Public availability of the procedures for interconnection negotiations The procedures applicable to a major supplier will be made publicly available.	2.3 Public availability of the procedures for interconnection negotiations The procedures applicable to a major supplier will be made publicly available.
2.4 Transparency of interconnection arrangements It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.	2.4 Transparency of interconnection arrangements It is ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.	2.4 Transparency of interconnection arrangements It will be ensured that a major supplier will make publicly available either its interconnection agreements or a reference interconnection offer.
2.5 Interconnection: dispute settlement A service supplier requesting interconnection with a major supplier will have recourse, either: (a) at any time or (b) after a reasonable period of time which has been made publicly known **to an independent domestic body, which may be a regulatory body as referred to in paragraph 5 below**, to resolve disputes regarding appropriate terms, conditions	2.5 Interconnection: dispute settlement A service supplier requesting interconnection with a major supplier will have recourse, either: (a) at any time or (b) after a reasonable period of time which has been made publicly known **to a domestic regulatory authority** to resolve disputes regarding appropriate terms, conditions and rates for interconnection within reasonable period	2.5 Interconnection: dispute settlement A service supplier requesting interconnection with a major supplier will have recourse, either: (a) at any time or (b) after a reasonable period of time which has been made publicly known **to a domestic authority** to resolve disputes regarding appropriate terms, conditions and rates for interconnection within reasonable period of time, to the

TEXT OF THE REFERENCE PAPER	TEXT OF REFERENCE PAPER IN INDIA'S SCHEDULE OF SPECIFIC COMMITMENTS	TEXT OF REFERENCE PAPER IN INDIA'S REVISED OFFER
and rates for interconnection within a reasonable period of time, to the extent that these have not been established previously.	of time, to the extent that these have not been established previously.	extent that these have not been established previously.
3. Universal service Any Member has the right to define the kind of universe service obligation it wishes to maintain. **Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the Member**.	3. Universal service India retains the right to define the kind of universal service obligation it wishes to maintain. **Such obligations are not regarded as anti-competitive *per se*, since they would be administered in a transparent and non-discriminatory manner.**	3. Universal service India retains the right to define the kind of universal service obligation it wishes to maintain. **Such obligations are not regarded as anti-competitive *per se*, since they would be administered in a transparent and non-discriminatory manner.**
4. Public availability of licensing criteria Where a license is required, the following will be made publicly available: (a) all the licensing criteria and **the period of time normally required to reach a decision concerning an application for a license** and (b) the terms and conditions of individual licenses. **The reasons for the denial of a license will be made known to the applicant upon request.**	4. Public availability of licensing criteria Where a license is required, the following will be made publicly available: (a) all the licensing criteria and **[omitted]** (b) the terms and conditions of individual licenses **[omitted].**	4. Public availability of licensing criteria Where a license is required, the following will be made publicly available: (a) all the licensing criteria and **[omitted]** (b) the terms and conditions of individual licenses **[omitted].**
5. **Independent regulators** **The regulatory body is separate from, and not accountable to, any**	5.**Regulatory Authority** **[omitted]** The decisions of and the procedures used by the **regulatory**	5. **Regulatory Authority** ~~The decisions of and the procedures used by the regulatory authority shall be impartial with~~

TEXT OF THE REFERENCE PAPER	TEXT OF REFERENCE PAPER IN INDIA'S SCHEDULE OF SPECIFIC COMMITMENTS	TEXT OF REFERENCE PAPER IN INDIA'S REVISED OFFER
supplier of basic telecommunications services. The decisions of and the procedures used by **regulators** shall be impartial with respect to all market participants.	**authority** shall be impartial with respect to all market participants.	~~respect to all market participants.~~ The regulatory body is separate from, and not accountable to, any supplier of basic telecommunications services. The decisions of, and the procedures used by, regulators shall be impartial with respect to all market participants.*****
6. Allocation and use of scarce resources Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, will be carried out in an objective, timely, **transparent and non-discriminatory manner.** The current state of allocated frequency bands will be made publicly available, but detailed identification of frequencies allocated for specific government uses is not required.	6. Allocation and use of scarce resources Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, will be carried out in an objective and timely manner. **[omitted].**	6. Allocation and use of scarce resources Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, will be carried out in an objective and timely manner. The current state of allocated frequency bands will be made publicly available, but detailed identification of frequencies allocated for specific government uses is not required*****.

Source: Compiled by the authors.

Note: The differences between the 'Reference Paper on Basic Telecommunications' and India's commitments to the Reference Paper in the Uruguay Round and in the Doha Round (revised offer August 2005) are given in bold prints.

Table D 2: Comparison of the Commitments in the US FTAs and India's Current Policy Regime

Issues	**US –Singapore**	**US-Chile/US-Morocco/US-Australia**	**India's Policy Regime**
Submarine Cable System	1. If the country is providing the domestic supplier to operate submarine cable system, then it should provide the suppliers of the other country to also operate submarine cable operators at reasonable, cost oriented terms. 2. If the submarine cable landing facilities and services cannot be technically or technically substituted, and if a major supplier of public international telecommunication services can affect the price and supply for cable landing facilities and services, then the country should ensue that the major supplier allow the supplier of public telecommunications of the other country the following things**:** - To use the major supplier's cross connecting links in the submarine cable landing station so that they connect their equipments - To co locate their equipments used for accessing at reasonable terms and conditions. The major suppliers should allow the suppliers of the other country submarine cable capacity, back haul links, and cross-connect links in the submarine cable landing stations at cost-oriented, transparent terms and conditions.	Same as 1(C, A, M) 2 and 3 are not there (C, A, M) ***Satellite Services:*** Each country should ensure that any enterprise which has been given the right to provide satellite services in its territory as a public telecommunication services accords reasonable, non-discriminatory treatment with respect to those services supplied suppliers of the other country. (in M)	Policy- wise there is no discrimination on access to submarine cable systems. Both Bharti and Reliance have the authority to set up landing station for submarine. However, during the survey, it was found that VSNL is reluctant in providing access to the use of submarine cable capacity to foreign operators through its cable landing station.
Resale	The suppliers of each country should provide	Same (C, A, M)	NTP 99 allows for resale by major

Issues	US –Singapore	US-Chile/US-Morocco/US-Australia	India's Policy Regime
	resale of public telecommunication services to suppliers of other party at price identical to what it would charge from domestic end- users and does not discriminates suppliers of other country on this ground		suppliers at reasonable rates to other suppliers. However, TRAI does not advocate resale primarily because it wants to encourage suppliers to develop infrastructure. Moreover, according to TRAI, in the telecom sector, fixed investment is declining at a face pace that resale will not serve any purpose. However, foreign operators raised a concern about the current prohibition on the resale of services and network elements.
Unbundling of Network Element	1. Each party should accord its regulatory body the right to ask the domestic suppliers to provide access to network elements at cost-based rates, non-discriminatory, transparent and reasonable terms to suppliers of public telecommunication services of the other party. 2. The national law of the country will determine the network elements, which will be available, and the suppliers, which can obtain these elements. 3. A country's regulatory body shall decide on the following issues while determining which network elements will be made available: a.) Access to network elements should necessarily be given to the other country. b.) Whether the network elements can be obtained from other sources at reasonable, non discriminatory sources c.) Whether the network elements are technically or operationally required for	Same as 1 (C, A, M) Same as 2, 3 a (in C)	TRAI clearly spells out unbundling of network element as one of its principle.

Issues	US –Singapore	US-Chile/US-Morocco/US-Australia	India's Policy Regime
	the provision of competing service d.) Other factors established in national law.		
Provisioning and Pricing of Leased Circuit Services	1. Provision of leased circuit services by major suppliers to suppliers of telecommunication services of other country on reasonable, non-discriminatory rates 2. Each country should check whether the rates at which it supplies leased circuit to suppliers of the other country are in line with the rates other countries are providing.	Same as 1 and 2. (C, A, M)	Prices of leased circuit services have decreased drastically by 50% - 60%. The policy regime for making commitment is in place.
Co location	1. Each country should provide physical access and control over space in order to install, .maintain equipment necessary for interconnection to supplier of public telecommunication of the other party at reasonable, transparent, non-discriminatory terms and at cost-oriented rates 2. In the case where physical co-location is not possible, then the party should provide or facilitate virtual co location to the supplier of other party at reasonable, transparent, non-discriminatory terms and at cost-oriented rates	Same as 1 and 2.(C, A, M)	The incumbent, BSNL, has opposed to the provision of physical co location of equipment necessary for interconnection mainly because it fears sabotage by other suppliers. At present, it is difficult to allow co-location.
Access to Poles, Ducts, Conduit and Rights of Way	1. No discrimination by supplier of one country to supplier of public telecommunication services of the other country with respect to access to ports, conduits, and poles with respect to rates.	Not there in Chile Same as 1 in A, M Same as 2 in A	Access to poles, ducts, conduit and rights of way by major suppliers is a very mature form of competition. Though, TRAI encourages sharing of infrastructure between suppliers, this

Issues	US –Singapore	US-Chile/US-Morocco/US-Australia	India's Policy Regime
	2. Each country under its law should have the right to determine which particular structure which are owned by domestic suppliers will be made available to other country's suppliers.		issue has not been explicitly stated in its principles. However, it is expected that TRAI will soon address this issue and will come up with a consultation paper for the same.
Forbearance	1.Since each country recognises the importance of relaying on market forces to achieve efficient supply of telecommunication services, therefore each party country should forebear from applying regulation to a telecommunications service if the regulatory body determines that: Enforcement of such regulation is not required to prevent discriminatory practices. Enforcement of such regulation is not required for the protection of consumers Forbearance should promote and enhance competition among suppliers of public telecommunications services.	Same	There is sufficient competition in the market for the supply of telecom services. TRAI recognises the competition and forbears the tariff rates. However, quality of services is not forborne by TRAI for cellular services
Enforcement	1.Each country should ensure that its telecommunication regulatory body maintains procedures and authorities such as the ability to impose effective sanctions(financial penalties, modification, suspension of licenses among others)	Same (C, A, M)	The current policy regime is adequate to make commitment on this issue. However, during the survey, companies pointed out that enforcement is not adequate.
Resolution of Telecommunication Dispute and Appeal Process	1. Recourse to telecommunication Regulatory Bodies: a.) Both countries must ensure that enterprises of the other country have recourse to a telecommunications regulatory body to resolve any kind of	1. Recourse to telecommunication Regulatory Bodies: Same as in 1a) (C,A, M) 1 b.) Each country should ensure that supplier of the other country, which	The current policy regime is sufficient to make commitment on this issue.

Issues	US –Singapore	US-Chile/US-Morocco/US-Australia	India's Policy Regime
	dispute. 2. Reconsideration a) Each country should ensure that if the other country's supplier is adversely affected by the decision of the regulatory body of the other country, then it should have the right to petition that body for reconsideration. 3.Judicial Review a.) Each country should ensure that any enterprise adversely affected by the decision of the regulatory body of the other country could obtain judicial review of such decision by an impartial, independent judicial authority.	has requested for interconnection with the domestic supplier should have a recourse to a regulatory body within a reasonable period of time.(C) Same as 2 and 3 (C, A, M)	
Treatment by Major Suppliers	This issue mainly relates that any major supplier of a given territory accords to supplier of public telecommunication services of the other party treatment no less favourable it accords to itself, its subsidiaries, affiliates regarding availability, provisioning, rates or quality of the like public telecommunication services and the availability of technical interfaces necessary for interconnection.	Same in (C, A, M)	This principle is not explicitly stated by TRAI.
Number Portability	Number portability means that the consumer is able to retain his number even while switching carriers. Each country should ensure that its domestic supplier provides number portability	Same in (C, A, M)	Presently, India doesn't have number portability but TRAI is currently making a policy for the same.

Issues	US –Singapore	US-Chile/US-Morocco/US-Australia	India's Policy Regime
	on non-discriminatory terms.		
Dialing Parity	Not there	Each country should ensure that major domestic supplier provide dialing parity to suppliers of other country and ensure non discriminatory access to telephone number to other suppliers (C, A, M)	Not There

Source: Complied by the authors.

Note: In the table, 'C' stands for Chile, 'A' stands for Australia, and 'M' stands for Morocco.

These liberalization commitments are beyond the scope of the market access commitments under GATS and the Reference Paper.

India's policy regime has been drawn after intense discussion with TRAI and industry experts.

Table D 3: Comparison of India's WTO Commitments and Revised Offer and the Applicable Regimes of 1997 and 2005

		Commitment in 1997			**Applicable Regime in 1997**			**Applicable Regime 2005**			**Revised Offer 2005**		
Type of Service	Service Area	No. of Providers	Period of License (yrs)	FDI Limit	No. of Providers	Period of License (yrs)	FDI Limit	No. of Providers	Period of License (yrs)	FDI Limit	No. of Providers	Period of License (yrs)	FDI Limit
ILD	International	1	10	25%	1	-	49%	Unlimited	20	74%	2	20	49%
NLD	National	1	10	25%	1	-	49%	Unlimited	20	74%	2	20	49%
Cellular Mobile	Circle	2	10	25%	2	10	49%	Unlimited	20	74%	2	-	49%
Fixed	Circle	2	10	25%	2	10	49%	Unlimited	-	74%	2	-	49%
VSAT	National							Unlimited	-	74%	2	-	49%
Internet Service Providers	National, Circle Wise, SSA wise	2	Unbound	51%	Unlimited	10 years	49%	Unlimited	15	With gateways-74% Without gateways-100%	2	10	49%
Reference Paper principles		Largely non-compliant in respect of core disciplines			Somewhat compliant			Fully compliant			Largely non-compliant in respect of core disciplines		

Source: Kathuria (2004) and updated by the authors

Bibliography

Chowdary, T.H. (2000), 'Towards People-Oriented Telecom Services', Commentary of *Economic and Political Weekly*, 29 July-4 August, 2000, *Economic and Political Weekly*, Mumbai, India.

Desai, A.V. (2006), 'India's Telecommunications Industry: History, Analysis, Diagnosis', Sage Publication, New Delhi.

Economic and Political Weekly Editorial (2000), 'Segmented Thinking on Telecom', 22 July-28 July, 2000, *Economic and Political Weekly*, Mumbai, India.

Economic and Political Weekly Editorial (2000), 'Telecom: Groping Towards a Unified Market', 26 August-2 September, 2000, *Economic and Political Weekly*, Mumbai, India.

Economic and Political Weekly Editorial (2002), 'Telecommunications: Flawed Policies', 30 March, 2002, *Economic and Political Weekly*, Mumbai, India.

Economides, N. (1998), The Telecommunications Act of 1996 and its Impact', Working Papers 98-08, Leonard N. Stern School of Business, Department of Economics, New York University.

European Commission (2004), 'Report on United States Barriers to Trade and Investment', Brussels, December, 2004.

Ganguly, D. (2005), 'Barriers to Movement of Natural Persons: A Study of Federal, State and Sector-Specific Restrictions to Mode 4 in the United States of America', Working Paper 169, ICRIER, New Delhi.

Global Internet Policy Initiative (2002), 'Best Practices for Telecommunications Reform', www.internetpolicy.net/practices/telecomreform.pdf

Gupta, R. (2002), 'Telecommunication Liberalization: Critical Role of Legal and Regulatory Regime', Special article of *Economic and Political Weekly*, 27 April 2002.

Hoekman, B. and C. A. Primo Braga (1997), 'Protection and Trade in Services', Policy Research Working Paper No. 1747, World Bank, Washington D.C.

INTUG (2003), 'WTO Commitments for Telecommunications: A Submission to the Government of India', http://www.intug.net/submissions/India_WTO.html

Kathuria, R. (2004), 'Trade in Telecommunications Services: Opportunities and Constraint', Working Paper 149, ICRIER, New Delhi.

Lawrence, R. Z. and R. Chadha (2004), 'Should a US-India FTA be Part of India's Trade Strategy', *The India Policy Forum*, Vol I, 2004, Brookings Institution Press.

Menon, A. R. (1999), 'India: Adopting a Pro-competitive Policy for Telecommunications', Paper presented to the Telecommunications Alliance in May 1999, MA Commercial Diplomacy http://www.commercialdiplomacy.org/ma_projects/ma_india1.htm

Mukherjee, R. (2004), 'Managing Competition: Politics and the Building of Independent Regulatory Institutions', *India Review*, Volume 3, Number 4, October 2004.

Panagariya, A. *(*2004), 'India's Trade Reform: Progress, Impact and Future Strategy', Working Paper in its series on International Trade, No. 0403004, Washington University in St. Louis, http://econwpa.wustl.edu/eps/it/papers/0403/0403004.pdf

Dossani, R. (2003), Telecommunications Reform in India, 2003, Greenwood Publishing Group, Westport CT, UK

Rajan, R. and R. Sen (2002), 'Singapore's New Commercial Strategy: The Pros and Cons of Bilateralism', Discussion Paper No. 0202, Centre for International Economic Studies, Adelaide University, Adelaide 5005, Australia.

Roy, J. and P. Banerjee (2004), 'US-India Free Trade Agreement in Services: An Analysis of Issues for Discussion', Approach Paper, CII, New Delhi.

Ruoen, R. and C. Kai (1995), 'China's GDP in U.S. Dollars Based on Purchasing Power Parity', Policy Research Working Paper 1415, World Bank, Washington D.C.

Virmani, A. (2000), 'A Communication Policy for the 21st Century', 3-9 June 2000, *Economic and Political Weekly*.

Virmani, A. (2004), 'Economic Reforms: Policy and Institutions: Some Lessons from the Indian Reforms', Working Paper 121, ICRIER, New Delhi.

Wellenius, B. (1997), 'Telecommunications Reform—How to Succeed', *Public Policy Journa*l, Private Infrastructure, Number 130, The World Bank Group. http://rru.worldbank.org/PublicPolicyJournal/Infrastructure-Telecom/.

Newspapers/Magazines

Express Computers, 'VSAT Sector Presses for Reforms to Stay Afloat', 16 June 2003.

http://www.expresscomputeronline.com/20030616/newsan3.shtml

'TRAI seeks cut in international, domestic leased lines', 8 February, 2005, http://www.domain-b.com/organisation/trai/20050208_leased_lines.htm

The Economic Times, 'Trai Slashes Licence Fee by 80%, Govt's Revenue Share too Cut', 14 January 2005.

http://economictimes.indiatimes.com/articleshow/msid-277922,curpg-1.cms

The Financial Express, 'Frame Techno-liberal, Flexi-funding Telecom Policy for Faster Growth', 23 June 2005.

http://www.financialexpress.com/fe_full_story.php?content_id=93864

The Economic Times, 'Ambiguities Choking the Lines', 7 February 2005.

http://economictimes.indiatimes.com/articleshow/msid-767945,curpg-2.cms

The Economic Times, 'Govt. Rings in 74% FDI in Telecom', 3 February 2005.

The Financial Express, 'Maran calls for "One India"', 16 June 2005

The Financial Express, 'ADC Regime Must Continue', 14 February 2005. http://www.financialexpress.com/fe_full_story.php?content_id=82523

The Economic Times, 'Why Unified Licensing?' 9 February 2005.

The Economic Times, 'STD, ISD Rates to Fall as Trai Slashes ADC', 7 January 2005.

The Business Line, 'ADC: Is it Wrong Call by TRAI?' 17 December 2004.

The Economic Times, 'VSNL America gets International License', 1 September 2004.

United Press International, 'Analysis: India Opens Telecom Further', 12 November 2003.

The Washington Times, 'India's new telecom callers', 25 June 2004

Reports/Annual Reports/Others

TRAI (July 2003), Consultation Paper on 'Unified Licensing for Basic and Cellular Mobile Services', 16 July 2003.

TRAI (November 2003), Preliminary Consultation Paper on 'Unified Licensing Regime', 15 November 2003.

TRAI (January 2004), Consultation Paper on 'Unified Licensing Regime', 13 January 2004.

TRAI (July 2004), 'The Indian Telecom Services Performance Indicators for FY 2003-04', July 2004.

TRAI (January 2005), 'The Telecommunication Interconnection Usage Charges (Fourth Amendment) Regulation (1 of 2005)', 6 January 2005.

TRAI (August 2005), 'TRAI Issues Recommendations on Unified Licensing Regime', Press Release No. 8/ 2005.

Annual Report (2002-03), Department of Telecommunications, Ministry of Communications, India.

Annual Program Performance Report, Fiscal Year 2003, Federal Communications Commission, USA.

Department of Industrial Policy & Promotion (April 2006), Foreign Direct Investment Policy, India, http://dipp.nic.in/publications/fdi_policy_2006.pdf

Indo-Singapore CECA, http://commerce.nic.in/ceca/toc.htm

Planning Commission (August 2002), 'Foreign Investment, India', 2002, Government of India.

Planning Commission, '10th Five Year Plan (2002-2007)', Government of India, http://planningcommission.nic.in/plans/planrel/fiveyr/welcome.html.

Planning Commission, 'An Approach to the 11TH Five Year Plan', http://planningcommission.nic.in/plans/planrel/apppap_11.pdf

NASSCOM (2004), 'The IT Industry in India', Strategic Review 2004, NASSCOM, New Delhi.

NASSCOM (2005), 'The IT Industry in India', Strategic Review 2005, NASSCOM, New Delhi.

NASSCOM (2006), 'The IT Industry in India', Strategic Review 2005, NASSCOM, New Delhi.

United States Trade Representative Report (2004), National Trade Estimate Report on Foreign Trade Barriers.

http://www.ustr.gov/Document_Library/Reports_Publications/2004/2004_National_Trade_Estimate/2004_NTE_Report/Section_Index.html

United States Trade Representative Report (2005), National Trade Estimate Report on Foreign Trade Barriers.

http://www.ustr.gov/Document_Library/Reports_Publications/2005/2005_NTE_Report/Section_Index.html

United States Trade Representative Report (2006), National Trade Estimate Report on Foreign Trade Barriers.

http://www.ustr.gov/Document_Library/Reports_Publications/2006/2006_National_Trade_Estimate/2006_NTE_Report/Section_Index.html

International Telecommunication Union (2003), World Telecommunication Development Report, 2003, ITU, Geneva, Switzerland.

Final Text of Free Trade Agreement--U.S.A and Chile, *Telecommunications*, chapter 13.

http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Chile_FTA/Final_Texts/asset_upload_file759_4007.pdf.

Final Text of Free Trade Agreement-U.S.A and Morocco, *Telecommunications*, chapter 13.

http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Morocco_FTA/FInal_Text/asset_upload_file354_3847.pdf.

Final Text of Free Trade Agreement -U.S.A and Australia, *Telecommunications*, chapter 12.

http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Australia_FTA/Final_Text/asset_upload_file322_5157.pdf.

Final Text of Free Trade Agreement -U.S.A and Singapore, *Telecommunications.* chapter 9.

http://www.ustr.gov/assets/Trade_Agreements/Bilateral/Singapore_FTA/Final_Texts/asset_upload_file708_4036.pdf.

US India CEO Forum (2006), US-India Strategic Economic Partnership, March 2006. http://planningcommission.nic.in/reports/genrep/USIndia.pdf#search=%22us%20india%20ceo%20forum%22.

World Bank (2006), World Development Indicators (WDI), 2006, http://devdata.worldbank.org/data-query/

WTO (April, 1997), *Schedule of Specific Commitments, Supplement 3-India*, 11 April 1997. GATS/SC/42/Suppl 3.

WTO (8 December 1998), Telecommunication Background Note, Annex, Figure A1, Page 16, S/C/W/74.

WTO (18 December 2000), Communication from the United States, *Market Access in Telecommunications and Complementary Services: The WTO's Role in Accelerating the Development of a Globally Networked Economy*, 18 December 2000. S/CSS/W/30

WTO (2002), *Initial Request by the United States to India, 2002, WTO.*

WTO (April, 2003), *Initial Offe-US*, 9 April 2003. TN/S/O/USA.

WTO (17 December 2003), *Trade Policy Reviews, United States*, Report by the Secretariat, 17 December 2003. WT/TPR/S/126.

WTO (January, 2004), *Conditional Initial Offer- India*, 12 *January* 2004. TN/S/O/IND.

WTO (May, 2005) *Revised Initial Offer -US*, May 2005. TN/S/O/USA.

WTO (1 July 2005), Communication from Australia, Canada, The European Communities, Japan, Hongkong, China, Korea, Norway, Singapore, The Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, and the United States, *Liberalization of Telecommunication Services*, 21 July 2005. TN/S/W/50

Websites

www.bilaterals.org
www.dotindia.com
www.trai.gov.in
www.ustr.gov
www.wto.org
http://www.commercialdiplomacy.org/ma_projects/ma_india1.htm
http://www.hotspotsnews.com/publications/page207-831852.asp
http://www.lightreading.com/document.asp?doc_id=45953
http://www.comptelascent.org/news/recent-news/121704.html
http://www.tribuneindia.com/2003/20031031/biz.htm#1
http://pulse.tiaonline.org/article.cfm?ID=196
http://www.itu.int/ITU-D/ict/statistics/
http://www.att.com/history/history3.html
http://www.museum.tv/archives/etv/U/htmlU/uspolicyt/uspolicyt.htm
www.equitymaster.com/budget0506/sectors/telecom.asp
http://www.vsnl.com/news.php?htm=vsnlnews/vsnlamerica_26_06_03.htm
http://www.domain-b.com/organisation/trai/20050208_leased_lines.htm
http://www.ustr.gov/assets/Trade_Sectors/Services/Telecom/Section_1377/2005_Comments_on_Review_of_Compliance_with_Telecom_Trade_Agreements/asset_upload_file896_6994.pdf
http://www.ebrd.com/country/sector/law/telecoms/about/main.htm

LATEST ICRIER'S WORKING PAPERS

NO.	TITLE	AUTHOR	YEAR
189	AN ANALYSIS OF THE SPECIAL SAFEGUARD MECHANISMS IN THE DOHA ROUND OF NEGOTIATIONS *A PROPOSED PRICE-TRIGGER-BASED SAFEGUARD MECHANISM*	PARTHAPRATIM PAL DEEPIKA WADHWA	OCTOBER 2006
188	THE DEBATE ON THE POVERTY ESTIMATES OF 1999–2000	K. L. DATTA	OCTOBER 2006
187	PROSPECTS FOR IT-ENABLED SERVICES UNDER A INDO-US FTA	ARPITA MUKHERJEE PARAMITA DEB GUPTA	SEPTEMBER 2006
186	ASIAN ECONOMIC INTEGRATION ASEAN+3+1 or ASEAN+1s?	AMITA BATRA	SEPTEMBER 2006
185	AN EXAMINATION OF THE RELATIONSHIP BETWEEN HEALTH AND ECONOMIC GROWTH	GARIMA MALIK	SEPTEMBER 2006
184	STRUCTURAL SHIFT IN DEMAND FOR FOOD: PROJECTIONS FOR 2020	SURABHI MITTAL	AUGUST 2006
183	DOMESTIC MARKET INTEGRATION	ARVIND VIRMANI SURABHI MITTAL	JULY 2006
182	INDIA - PAKISTAN TRADE	NISHA TANEJA	JUNE 2006
181	DISCIPLINING VOLUNTARY ENVIRONMENTAL STANDARDS AT THE WTO: AN INDIAN LEGAL VIEWPOINT	SAMIR R. GANDHI	JUNE 2006
180	HIGHER EDUCATION IN INDIA : THE NEED FOR CHANGE	PAWAN AGARWAL	JUNE 2006

About ICRIER

ICRIER, established in August, 1981, has successfully completed its 25 years, as an autonomous, policy oriented, not-for-profit research institute. We have nurtured our cherished autonomy by establishing an endowment fund, income from which meets all our administration expenses. ICRIER's offices are located in the prime institutional complex of Indian Habitat Centre, New Delhi. The prime focus of all our work is to support India's interface with the global economy.

ICRIER's founding Chairman was Dr. K B Lall who led the organization from its inception from 1981 to 1992 when he handed over the Chairmanship to Mr. R N Malhotra (1992-1996). He was followed by Dr. I G Patel who remained Chairman from 1997 to 2005 until his demise in July 2005. ICRIER's current Chairperson is Dr. Isher Judge Ahluwalia.

Amongst ICRIER's founding member are: Dr. Manmohan Singh, Dr. C Rangarjan, Dr. M S Swaminathan, Dr. Jagdish Bhagwati, Mr. Montek Singh Ahluwalia and Mr.Bharat Ram.

ICRIER conducts thematic research on its six thrust areas that are:

- Trade, Openness, Restructuring and Competitiveness
- WTO Related Issues
- Regional and Bilateral Issues
- Financial Liberalization and Integration
- Macroeconomic Management in an Open Economy
- Strategic Aspects of India's External Relations

In addition, ICRIER holds public policy workshops to bring together policy makers, academicians, senior industry representatives, MPs and Media persons to try and forge a consensus on issues of major policy interest. In the effort to better understand global developments and experiences of other economies which have bearing on India's policies and performance, ICRIER invites distinguished scholars and policy makers from around the world to deliver public lectures on economic themes of interest to contemporary India.

ICRIER's highly qualified core team of researchers includes several PhD's from reputed Indian and foreign universities. At present the team has 18 economists. The team is led by Dr. Rajiv Kumar, D.Phil in Economics from Oxford University.